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NORTHERN ESSEX



Catalog 1971-1972

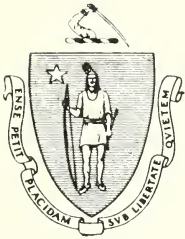
NORTHERN ESSEX COMMUNITY COLLEGE, HAVERHILL, MASSACHUSETTS 01830



NORTHERN ESSEX Community College

100 Elliott Street, Haverhill, Massachusetts 01830





Established under the Massachusetts Board of Regional Community Colleges, this College has no direct affiliation with the State Department of Education, the University of Massachusetts, the State Colleges, or other of the State-supported educational facilities. There is, however, a high degree of correlation, contact, and cooperation between the community colleges and all other institutions of higher education, both public and private, in Massachusetts and New England. Northern Essex Community College is a member of the American Association of Junior Colleges and the New England Junior College Council.

The college is now fully accredited by the New England Association of Colleges and Secondary Schools. It is a non-sectarian, fully-integrated institution of higher learning in compliance with the Civil Rights Act of 1964.

Northern Essex Community College, like other publicly supported institutions of higher learning in the Commonwealth, is under the jurisdiction of the State Board of Higher Education.

PRESIDENT HAROLD BENTLEY



History of the College

Northern Essex Community College was founded during the governorship of Foster J. Furculo. In October, 1960 Harold Bentley was appointed Director — and later President — of the College with a mandate to develop a permanent institution of higher learning.

The roots of Northern Essex are not buried in the past. To Harold Bentley, President of the College, and the other members of his small pioneering team, the hectic, demanding early days are ever-present, warm memories. The year 1960 meant a search for qualified teachers, plans for an opening class, and a desperate need for space.

Early in 1961, the City of Haverhill offered Northern Essex use of the old Greenleaf School in Bradford. "Old" was hardly an adequate description. Once a proud, red-brick, New England town hall, and for many years an elementary school, the Greenleaf School was in terrible condition and condemned.

But it was space. The Commonwealth of Massachusetts completely renovated the building. In the fall of 1961, resplendent with six new classrooms, and laboratories for chemistry, biology, physics, electronics and business machines, the old Greenleaf School opened its doors to one hundred and eighty-six students who were to be the first graduating class of Northern Essex Community College.

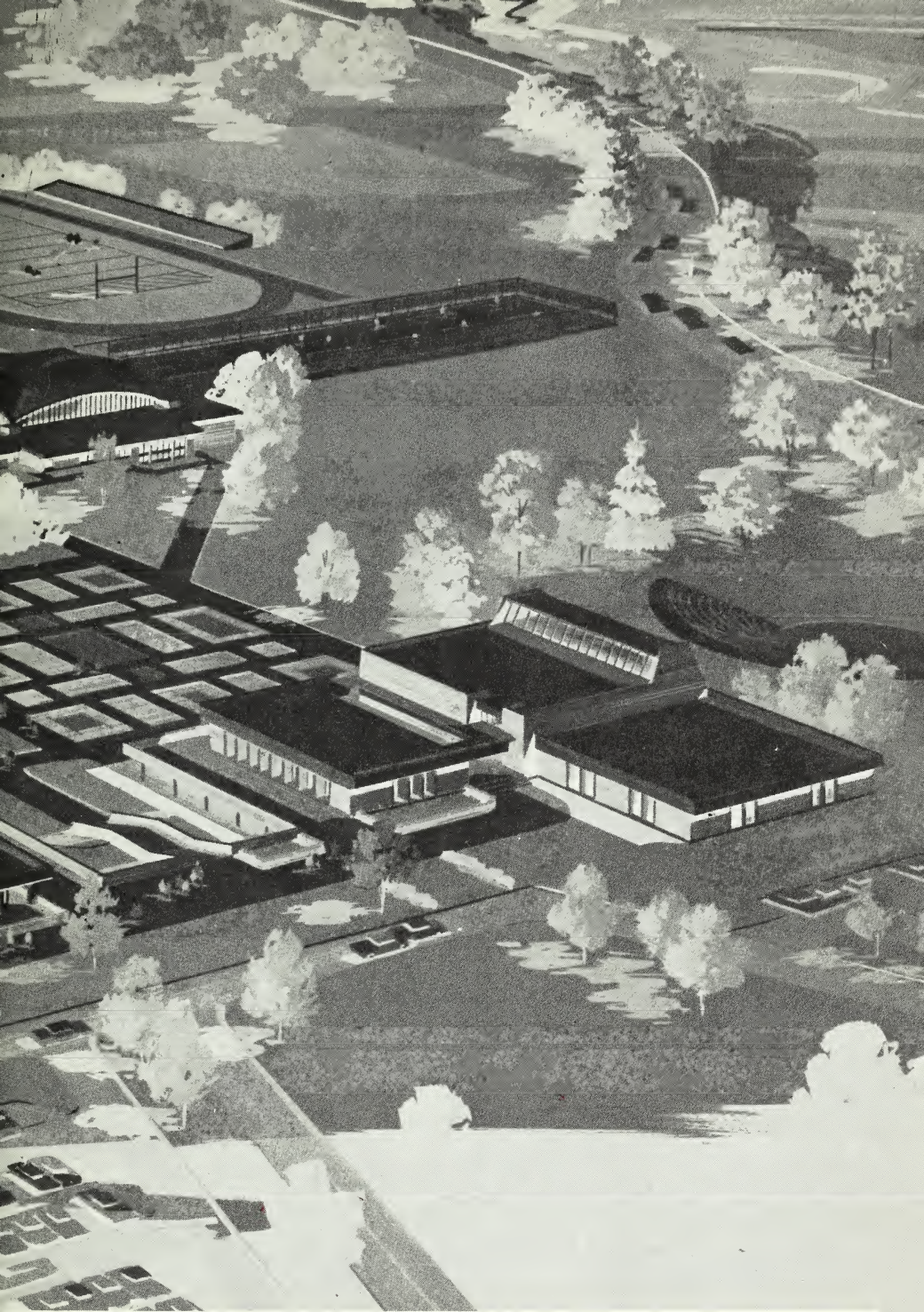


Northern Essex grew steadily. The City of Haverhill made additional space available in the former high school — a strong arm's stone throw across the Merrimack River from the Bradford campus. The original small, pleasant Library grew from 4,500 volumes to nearly 35,000 volumes and new acquisitions are still added regularly. The first tiny class enrollment has grown over 900% in the last nine years and the registration for the Fall, 1970 semester totalled over 1,800 students.

An Evening Division and a Summer Session are flourishing. Northern Essex Community College has come a long way since its inception in 1960.



Northern Essex is still moving, still growing. On February 23, 1965 the City of Haverhill deeded a parcel of land to the Commonwealth of Massachusetts as the site for a new campus for Northern Essex. The "parcel" is a magnificent stretch of rolling New England countryside — one hundred and ten acres overlooking beautiful Lake Kenosha



in Haverhill. In the Fall of 1971, the new campus was completed, and opened its doors to all the students, old and young, of the region. The City of Haverhill's generous gift is a permanent and glowing addition to the growing public educational services offered to its citizens by the Commonwealth of Massachusetts.



Philosophy of the College

Northern Essex believes that education is a continuing, forever kind of thing for everyone.

Northern Essex has its doors open in welcome to everyone — good and so-so students, culturally disadvantaged students, evening division students — everyone from nineteen to ninety-one (and younger and older) — who wants to learn.

The College seeks out potential students who may not be aware of the educational possibilities around them. Age, ethnic or religious background, past academic records — none of these factors are barriers at Northern Essex. The College plans for a variety of needs.

Northern Essex encourages people to consider education throughout their lives. The College believes that a sound, basic educational background is a good tool to help people adjust to a world of rushing change.

The College believes in developing new programs which will be relevant to the needs and desires of students. Northern Essex believes in the shirt-sleeve approach to education. Learning and living are interlocked at the College, and education is real.

Purpose and Aims of the College

Northern Essex is a college with its door open to everyone in the community interested in learning.

It is a community college; filling community needs. The Merrimack Valley region of the Commonwealth of Massachusetts is the community. Northern Essex serves more than forty-five cities and towns in this area. Study at Northern Essex is also available to some students from adjacent areas of Southern New Hampshire.

Northern Essex is a comprehensive community college which concentrates all of its resources on the important first two college years.

The College provides quality education at low cost. It offers students the opportunity to search out higher values and ideals; to interpret their own cultural heritage and that of others; and to become informed, tolerant citizens of their democratic society. Students learn to read, speak and write more clearly and effectively, and to communicate more easily with their fellow men. Students are encouraged to satisfy their desires for intellectual understanding and economic self-sufficiency.

Northern Essex offers degree programs based on three concepts: that people have different abilities, needs, desires and interests; that their educational needs vary as they continue through life; and that these educational needs must be met by varying kinds of programs.

Northern Essex has transfer-oriented programs for students who plan to continue their education at senior institutions. Broadly based, these programs also offer students who are unsure of the direction of their

future plans an opportunity to explore different areas before concentrating their studies.

The College has occupationally-oriented programs leading to productive jobs and better futures. They reflect the needs of business and industry in the Merrimack Valley region.

Northern Essex has developmental programs for students who may never have considered themselves college material, and for students from racial and cultural minority groups. Emphasis is placed on a fundamental developmental orientation to college-level work before these students enroll in a degree program.

Northern Essex has special programs, and courses of varying lengths and emphases, to meet the needs of adults. These programs answer the demands for academic achievement, cultural growth, and vocational improvement made by people in the community.

The College provides courses during the day, in the evening, and during the summer.

Northern Essex provides an excellent education for qualified high school graduates on a full, or part-time, basis. The College provides an opportunity for equivalency exams for students who have not graduated from high school.

The College is a commuters' college located in the heart of its region. Students study and learn in their own backyards.

Northern Essex provides counseling for every student in selection of program, choice of vocation, and the huge task of making learning relevant to living.

Governance of the College

Jurisdiction for the community colleges in the Commonwealth of Massachusetts has been designated to the Massachusetts Regional Board of Community Colleges by the State. The Board, in turn, delegates full authority and responsibility for the administration of individual community colleges to the President of that college.

At Northern Essex, to foster shared authority and responsibility in the making of decisions, an Academic Council has been created as a partnership including the student body, the faculty, and the administration. Establishment of this council recognized the need for increasingly effective participation by all the components of the academic community in the governance of the college.

The functions of the Academic Council are delegated to the council by the President of the College. The council is advisory in nature.

The Academic Council is a structure for shared authority in decisions concerning the educational excellence of Northern Essex Community College. The operation of the council is a learning process for all involved, and changes and refinements are anticipated. The council represents a basic commitment to a basic organization charged with basic tasks.



Counseling

Everyone has a problem of one sort or another, at one time or another. Just living means problems. Certainly planning an education can mean problems. Solving these problems means clearing away barriers to progress and, very often, going on better prepared for success.

Students often need help to solve their problems. They need access to new alternatives; they need suggestions, advice, encouragement, or perhaps simply a warm and friendly ear.

Northern Essex has a professional staff to counsel students. Our counselors understand the problems of the commuting student, the academic demands made on him, and the world of work or further study he will enter when he leaves the College. They are people who like people. Our counselors help students work out their own problems and their own patterns for progress.

Students talk to counselors about their learning problems and their academic goals. They discuss requirements for transfer with the counselors, and receive suggestions on the selection of careers. Sometimes the problem is personal, or financial. Students find our counselors equally prepared to help with these problems. Students may also encourage their parents to meet with counselors to work out a problem area.

And, counselors at Northern Essex are, above all, available to the student. The counseling office is open regularly every day for any student who needs some friendly advice.

The Faculty Advisory Program

The Faculty Advisory Program at Northern Essex is voluntary for both faculty and student. In developing the program, the College considered several basic points:

All students need advice some of the time

The kind of advice needed varies with the student, and varies for a particular student at different times in his academic career

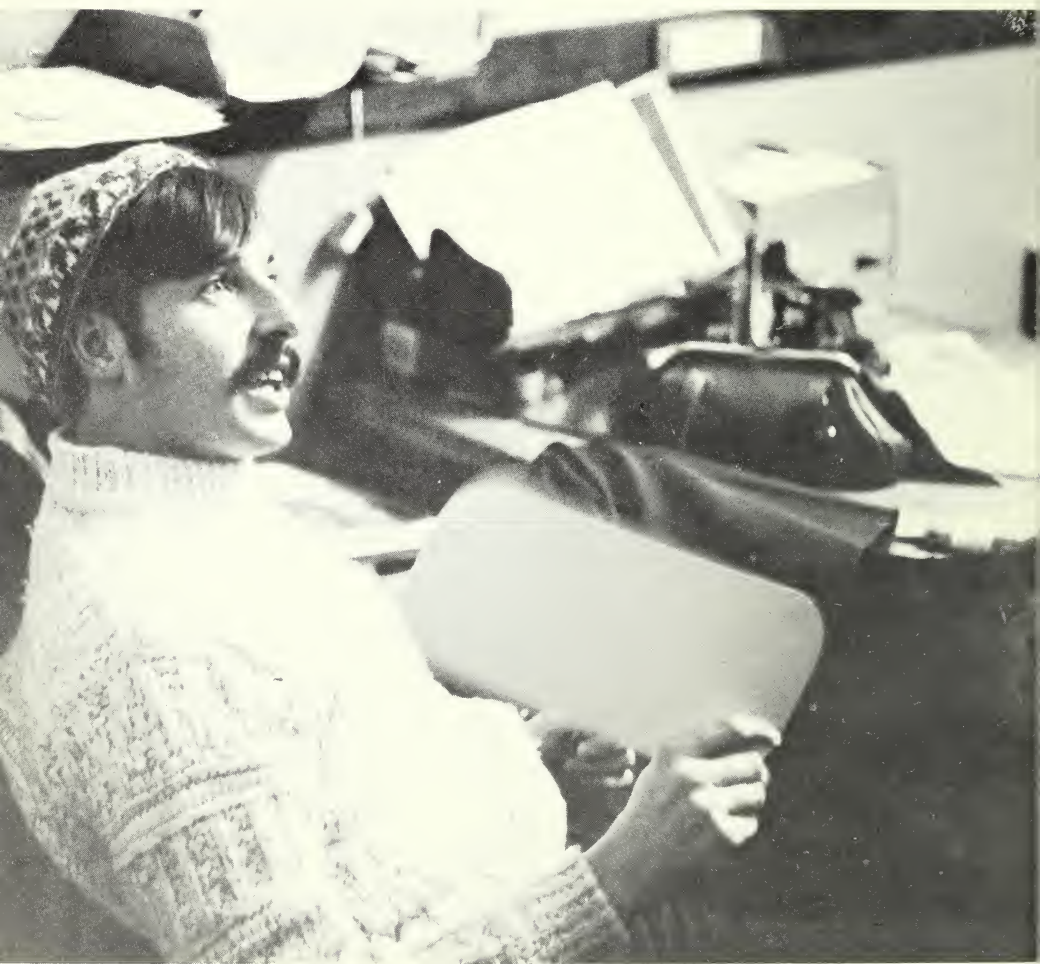
There is a tremendous store of resources at the College represented by the professional faculty and staff.

Each faculty member indicates his areas of professional and avocational interest to each student through the auspices of the program. Students then select specific types of advice according to their individual needs and interests and abilities.

If a student wishes to have a faculty member serve as his advisor in a continuing, on-going relationship throughout his stay at the College, he is encouraged to seek out his personal advisor. The student simply asks the faculty member to serve as his personal advisor. The faculty member decides whether he wishes to serve and, if so, decides the number of students he can effectively serve.

In some cases, particularly in the case of freshmen, the Dean of Students may recommend and encourage an on-going relationship with a personal advisor. However, such a relationship is not a requirement for any student.

The Faculty Advisory Program is committed to the idea that advice is best when it is sought by individual students on a voluntary basis, and when it is given willingly and voluntarily by a competent professional.



The Transfer Process

As a general rule, all course work completed at Northern Essex is transferable to senior institutions throughout the country at full academic value since the College is accredited. However, the following conditions must be met:

Most colleges will transfer only those courses in which the student receives a grade of "C" or higher

Selection of courses at Northern Essex must be appropriate to the field of concentration at the senior institution

Certain liberal arts colleges do not offer work in specialized areas such as engineering, business education, etc., and may not accept courses in such fields for transfer. Each student must identify the type of institution to which he expects to transfer, even though he may not know which particular college may be selected, and choose courses at Northern Essex accordingly

In all transfer processes, the receiving institution makes the final decision on acceptance or non-acceptance of courses.

It is the responsibility of each student to select courses at Northern Essex that will be acceptable for his chosen field of study at the senior institution of his choice. Careful study of the catalog of that institution will answer most questions. Students should request, from the Registrar of the senior institution they select, a copy of that college's catalog.

Full transfer credit toward the baccalaureate degree is granted by most senior institutions for all courses in the following curricula at Northern Essex: Liberal Arts, General Liberal Arts, Engineering Science, and Business Transfer.

There are some courses at the College intended for two-year associate degree curricula which are designed for students who are preparing for direct entry into business or industry. These courses are college level, but are not intended to meet the objectives of the baccalaureate program and, therefore, may not be transferable.

If a student, after successfully completing one or more semesters in an occupationally-oriented program at Northern Essex, wishes to transfer to a senior college after graduation, it is possible for him to do so. For instance, a student enrolled at Northern Essex during the first semester in the occupationally-oriented Business Management Program may decide to continue his education in the business field beyond the associate degree level. This student should modify his original plans and change to the Business Transfer Program at the College.

Arrangements for such transitions must be made before the start of the student's second year at Northern Essex. These transitions are the exception rather than the rule. Transfer from some occupationally-oriented programs is quite impractical. Transfer from most is difficult.

Northern Essex graduates have been accepted for transfer to many senior colleges and universities. The list is long, and includes colleges and universities throughout the United States. Here is a partial list of institutions which have accepted transfer students from Northern Essex:

American International College	Massachusetts State Colleges:
Amherst College	State College at Salem
Arkansas State College	State College at Fitchburg
Arizona State University	State College at Worcester
University of Arizona	State College at Westfield
	State College at Lowell
Babson Institute	State College at Framingham
Barrington College	State College at Bridgewater
Belknap College	State College at North Adams
Bemidji State College	State College at Boston
Bennington College	
Bentley College	University of Missouri
Boston University	Mount Holyoke College
Brandeis University	Mount St. Mary College
Bryant College	Murray State College
Cardinal Cushing College	
Castleton State College	Nasson College
Central Connecticut State College	Nathaniel Hawthorne College
Clark University	New England College
Clemson University	New Hampshire College of Accounting
Colby College	and Commerce
Colgate University	University of New Hampshire
University of Connecticut	Nichols College
University of Colorado	North Adams State College
Cornell University	Northeast Louisiana State College
C.W. Post College	Northeastern University
Defiance College	University of North Dakota
Duke University	North Texas State University
Emerson College	University of Oklahoma
Elmhurst College	Palomar College
University of Florida	Plymouth State College
Florida State University	Potsdam College of New York University
Franklin College	University of Puerto Rico
	Ricker College
Gordon College	Rivier College
Gorham State College	Saint Joseph's College
University of Hartford	Sam Houston State College
Hiram Scott College	St. Anselm's College
Husson College	St. Francis College
	San Fernando Valley State College
University of Iowa	Southeastern Illinois University
Iowa Wesleyan University	Southern Illinois University
Jacksonville University	Southern Connecticut State College
Johnson State College	University of Southwestern Louisiana
Kansas State University	Springfield College
Keene State College	Suffolk University
University of Kentucky	
Kent State University	University of Tampa
Keuka College	University of Tennessee
-Long Beach State College	Texas Woman's University
Long Island University	Towson State College
Lowell Technological Institute	Vassar College
University of Maryland	Villanova University
University of Maine	Washington State College
Marquette University	University of West Virginia
University of Massachusetts	Wichita State University
Merrimack College	Willamantic State College
University of Miami	Windham College
Milwaukee School of Engineering	University of Notre Dame at South Bend
University of Minnesota	

Placement after Graduation

Graduates of occupationally-oriented degree programs at Northern Essex have become a valuable and viable part of business and industry. Several businesses in the region have stated simply, "Give us as many graduates as you can. Their quality is top-notch and we'll hire as many as we can get."

Representatives from a variety of firms and fields recruit at Northern Essex, and more come each year. Students meet these people to learn about career opportunities, to develop and assess their future plans, to evaluate potential advancement possibilities, and to interview for placement after graduation.

Counselors at the College maintain an up-to-date file of summer job openings, and full and part-time jobs.

The placement service is an integral part of the College's planning. Northern Essex tries to ensure that occupationally-oriented programs will fit an actual working occupation, and that the jobs in the area for which a student trains are actually available in the region.

In 1969, Northern Essex graduated its first class in the Associate Degree Program in Nursing. These graduates are now serving the area as trained professionals. More and more new occupationally-oriented programs will be offered as the College grows. All of these programs will reflect the employment opportunities in the College's community.



Financial Aid

No qualified student should consider himself ineligible to apply to Northern Essex for financial reasons. A substantial amount of financial aid is available to students at the College, and financial status is not considered by the Office of Admissions when evaluating an application.

No awards of financial aid are made before an applicant has been accepted for admission to the College. Students who may require financial aid should apply to the Financial Aid Officer at Northern Essex. Financial need is evaluated with the aid of the Parents Confidential Statement of the College Scholarship Service. Need is determined by the expenses of the student in relation to his own income and the income of his parents.

The financial requirements of the student may be met through Economic Opportunity Grants, National Defense Student Educational Loans, the Work-Study Program, HELP Loans, Northern Essex Community College Faculty Association Scholarships, or a combination of these resources.

Economic Opportunity Grants

An award made to full-time students from families with extremely low incomes. Each grant must be matched by an equal amount of other financial aid. Scholarships awarded by organizations or individuals in the community qualify as matching financial aid for Economic Opportunity Grants. For example, if a student receives a scholarship for \$200.00, a grant for another \$200.00 is available, provided the student meets the low-income criteria established by Economic Opportunity Grant regulations.

National Defense Student Educational Loans

Loans are made to students at a low interest rate and repayment begins only after the student has completed his college work. The student is allowed ten years after graduation, or after completion of college work, to fully repay the loan. Interest charges, at the rate of 3% per year, begin only after graduation, or after completion of college work.

Students in several categories may receive grace periods before repayment of loans, may receive reductions in the amount of the loans repayable, or may receive deferments and cancellations.

Students in all categories receive a nine-month grace period between the end of college work and the date of the first loan payment. Interest does not accrue during this grace period.

Students who make loan payments before the end of the nine-month grace period will have the entire amount of the payment deducted from the principles of their loans. No interest is subtracted from these grace period payments.

Loans of students who serve, after graduation, in the Armed Forces, Vista or the Peace Corps, do not accrue interest during the period of the students' service.

Students who attend graduate schools do not accrue interest on their loans during this period. Students who continue their education at a senior institution and are employed, after graduation, as teachers may have 10% of the total amounts of their loans cancelled each year, for five years, for as long as they remain in the teaching profession.

Students who continue their education at a senior institution and are employed, after graduation, as teachers in a federally-designated poverty area may have 15% of their total loans cancelled each year until the entire amount of their loans is cancelled, for as long as they remain in the teaching profession in these designated poverty areas.

Students who enter the Armed Forces after graduation from Northern Essex may have 12-½% of their total loans cancelled each year, for four years.

National Defense Student Educational Loans qualify as matching financial aid, and allow eligible students to receive Economic Opportunity Grants.

Income criteria for the loans are less rigid than those for Economic Opportunity Grants. Students who do not qualify for the grants may qualify for the loans. However, the total amount allocated to Northern Essex Community College for National Defense Student Educational Loans is limited, and loans are made only as long as funds are available.

The Work-Study Program

Students may be eligible for part-time jobs within the College under the Economic Opportunity Work-Study Program. These jobs are fitted to the students' class schedules and involve work as College custodians, stenographers, and laboratory, classroom and library assistants on the campus. A Financial Aid Form must be completed by students interested in the Work-Study Program. The program is aimed at low-income families and the federal income guidelines for eligibility are rigid. Students in this program are employed a maximum of fifteen hours per week.

Work-Study Program awards qualify as matching funds for Economic Opportunity Grants.

HELP Loans

HELP (Higher Education Loan Program) loans are available to students from several local banks. HELP loans are usually payable nine months after graduation, or after completion of college work.



Faculty Association Scholarships

The Faculty Association at Northern Essex has provided a number of half-year tuition scholarships which qualify as matching funds for Economic Opportunity Grants. The scholarships are available to students in their second semester at the College only.

Students, to be eligible for Faculty Association Scholarships, must have attended Northern Essex for one full semester, have financial need, and maintain a minimum quality point average of 2.00. Preference will be given to students with higher quality point averages.

Veterans Educational Benefits

The College is approved by the Veterans Administration to educate and train eligible veterans. It is important for veterans to understand that benefits originating from the Federal Government and those originating from the Commonwealth of Massachusetts are independent of each other. Separate application processes must be completed for each type of benefit.

FEDERAL BENEFITS

The Federal Government has encouraged veterans to return to school by providing monthly benefits while the veteran is attending college. The following steps are necessary to qualify veterans for these benefits:

1. Complete the requirements for admission to Northern Essex and receive a Letter of Acceptance from the College.
2. Request an application for a Certificate of Eligibility from the Veterans Administration Office locally, or from the central office in the John F. Kennedy Federal Building, Government Center, Boston, Massachusetts.

These application forms are not available at the College.

3. Return the Letter of Acceptance from the College and the completed application for a Certificate of Eligibility to the local or central Veterans Administration office. The Veterans Administration will issue a Certificate of Eligibility (V.A. Form 1999) to the veteran.
4. Register for courses at the College as a full-time student. Twelve credit hours of course work is a full-time load; however, veterans should consider that entitlements would be exhausted by a twelve-credit-hour load at the same rate as they would be exhausted by a fifteen-credit-hour load. Non-credit courses will be added to the monthly rate, but not subtracted from the entitlement.
5. After registration is completed, the Certificate of Eligibility must be presented to the Financial Aid Officer at the College. At this time, and not before, the College will be able to process the Veterans Administration forms.
6. The Veterans Administration will also pay for any tutoring costs below a maximum amount of \$450.00 for a nine-month period. Tutoring charges must be approved by the Financial Aid Officer. The usual plan allows ten hours of tutoring per month, at the rate of \$5.00 per hour.

STATE BENEFITS

The Commonwealth of Massachusetts has a tuition exemption plan in state colleges for veterans who have served in the armed forces during the Viet Nam conflict, and who entered the service from Massachusetts. To qualify, veterans must proceed as follows:

1. Send a photostat of separation papers DD214, and a statement requesting a Certificate of Eligibility for Tuition Exemption, to The Adjutant General, Military Division, War Records — Room 184, State House, Boston, Massachusetts.
2. Complete the requirements for admission to Northern Essex and receive a Letter of Acceptance from the College.
3. Send the Letter of Acceptance from the College, and the Certificate of Eligibility for Tuition Exemption from the office of the Adjutant General, to Miss Mary McKay, Board of Education, 182 Tremont Street, Boston, Massachusetts. The Board of Education will issue a Certificate of Tuition Exemption to the veteran.
4. Register for courses at the College. Tuition is exempted for veterans who are full-time students (twelve credit hours of work or more) in the day division only.
5. Present the Certificate of Tuition Exemption to the Business Office of the College at the time of registration. No cash is involved in this tuition exemption process. Veterans should understand that the certificate exempts them from tuition fees only. All veterans must pay the Student Activity Fee.

The Certificate of Tuition Exemption is issued on an annual basis and is valid for two semesters. However, the exemption year begins with the Fall semester and ends at the close of the Spring semester. Veterans who enter college during the Spring semester use up one entire year of tuition exemption, even though they attend classes for one-half the academic year only. No more than four one-year tuition exemption certificates will be issued to an individual veteran.

Veterans who reapply to the College after an absence should send their new Letter of Acceptance from the College to the Board of Education with a request to the Board to reactivate their Certificate of Tuition Exemption.

For further information on federal and state veterans' benefits, veterans should contact the Financial Aid Officer at the College.

Part-time Employment

Full-time students at Northern Essex usually spend about sixteen hours a week in class work exclusively. Students must spend, in addition, an average of two or more study hours per week for each hour of class time.

The average academic week, then, is approximately forty-eight hours, depending upon the number and type of courses selected.

Part-time employment, in addition to a full-time academic work load, is not usually in the best interests of the student — in terms of academic achievement or health. Northern Essex does not recommend or encourage part-time work. First semester students, in particular, are urged not to consider part-time employment. Adjustment to college life and college work is, itself, a full-time job.

However, sometimes part-time employment is necessary. Students who must work should discuss the question with the counselors at the College. Students will be given assistance in locating jobs available in the community. Students should not consider employment which demands more than fifteen hours per week. Students who must work are also encouraged to consider a twelve-credit-hour course load.

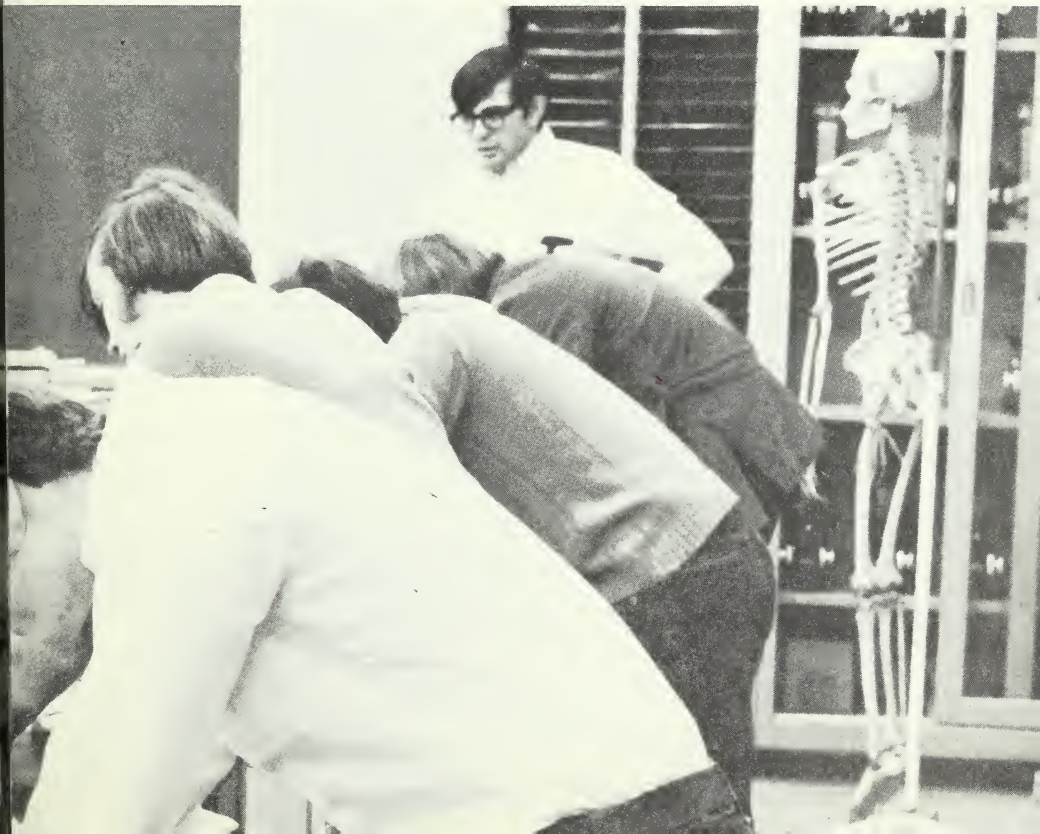


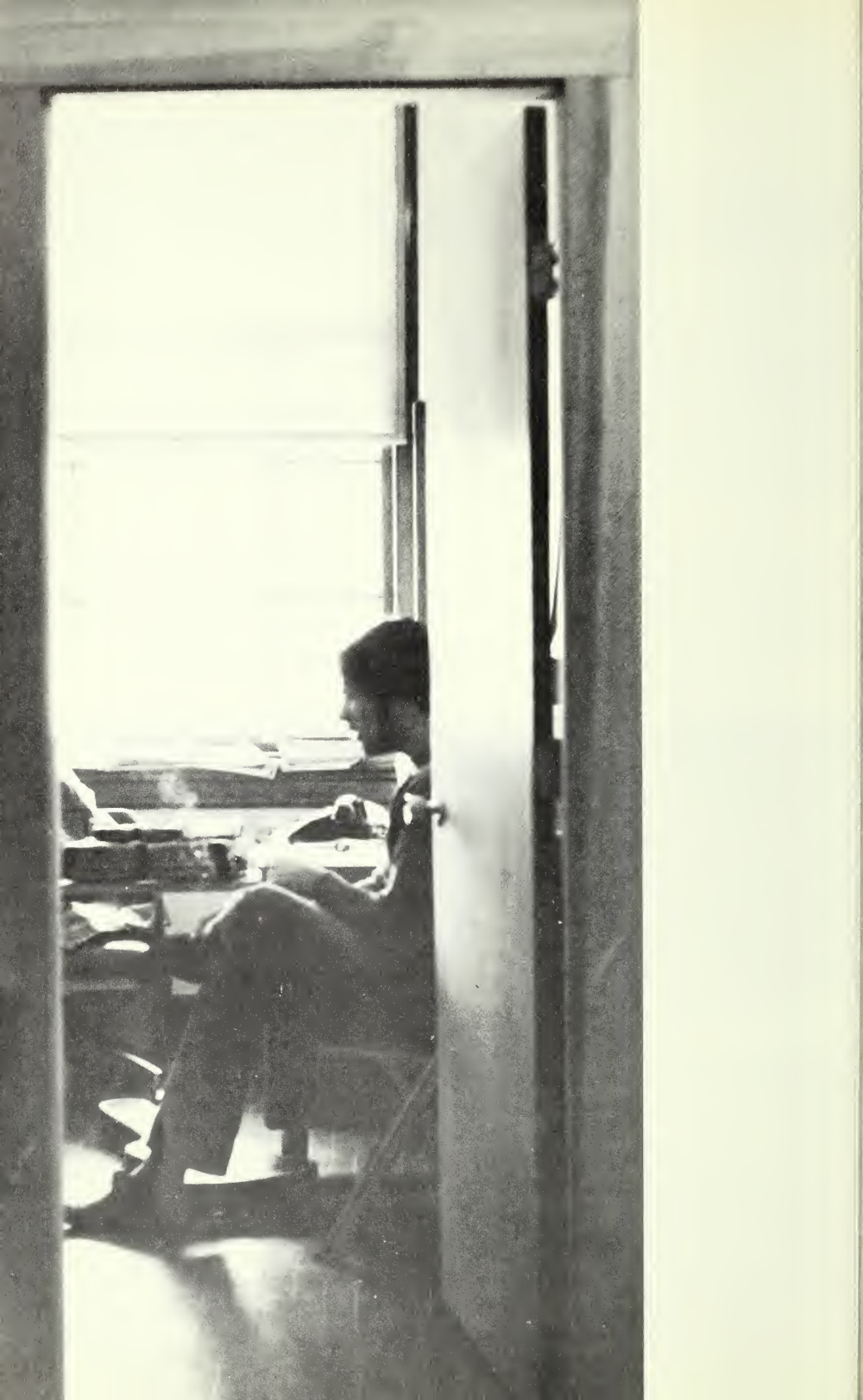
Admission to the College

All qualified students have the right to apply for admission to Northern Essex Community College. Applicants for an associate degree program must be high school graduates or equivalent.

The Admissions Office evaluates applications and selects candidates for acceptance into one of the degree programs at Northern Essex. The Admissions Office looks for evidence of potential for achievement within a college level program. It seeks to identify students who will respond to the vital environment of the College, and benefit from study here. An applicant's ability and the strength of his determination to get a college education are considered.

The Admissions Office may recommend a change in study direction for some, or advise completion of specific college preparatory courses for others. In all cases, the judgments, decisions and final selection of candidates for acceptance by the Office of Admissions is final.





Steps to Admission

1. Obtain an application form
2. Complete the application form as fully as possible
3. Return the form to the Office of Admissions at Northern Essex, and include:

Application Fee — \$10.00

Check or money order for the Application Fee is made payable to Northern Essex Community College. **The Application Fee is non-refundable**
4. Request the high school, and any college attended to forward the following records to the Admissions Office at the College:
 - a. Transcript of grades
 - b. Scholastic Aptitude Tests scores
 - c. English Achievement Test score
5. Await notification from the Admissions Office of the date and time set for a personal interview. Such interviews are not always necessary. A decision is made on whether or not a personal interview is advisable in each individual case
6. Keep personal interview appointment, when it is assigned. **Be punctual**
7. Notify the Admissions Office of any change of address as soon as possible
8. Await notification by the Admissions Office of the status of the application. A Letter of Acceptance, or a Letter of Non-Acceptance, is sent to each individual applicant



No evaluation of an applicant will be made until his application file is complete. **It is the applicant's responsibility to complete his own file.** Northern Essex will not contact other schools, or the College Entrance Examination Board for records, or any other information.

The College sets no closing date for the receipt of applications, but each application file is acted upon as soon as possible after it is completed. Therefore, it is to the applicant's advantage to submit a completed form as early as possible.

Applicants will be notified, in writing, of the status of their application. **No information on the status of an application will be given on the telephone,** or to anyone other than the applicant.

All inquiries, requests for forms, and other questions pertaining to admission to the College should be directed, in writing, to:

The Office of Admissions
Northern Essex Community College
Haverhill, Massachusetts 01830



Northern Essex Community College Haverhill, Massachusetts

APPLICATION FOR ADMISSION

Candidates for admission should complete this application and return it to the Admissions Office, Northern Essex Community College, Haverhill, Massachusetts 01830. An Application Fee of \$10.00 payable to Northern Essex Community College by check or money order must accompany this application. The application fee is non-refundable.

Please Print Clearly or Type

Date _____
Name Mr. _____ Social _____
Mrs. _____ Security _____
Miss _____ Number _____
Address _____ Telephone _____
No. Street City or Town State Zip Code

Date of Birth _____ Place of Birth _____ U.S. Citizen ☐ YES ☐ NO

Marital Status _____ Are you a veteran? ☐ YES ☐ NO
If YES: Branch of Service _____
Entering Date _____
Date/Type of Discharge _____

Parent or Guardian _____ Address _____ Occupation _____

List any serious illness requiring a doctor's care which you have suffered in the past five years, and any significant handicaps _____

When do you wish to enter Northern Essex? Spring _____ Fall _____
Year Year

List all high schools, colleges, or armed forces schools you have attended:
_____ From _____ To _____ Date of Graduation _____
_____ From _____ To _____ Date of Graduation _____
_____ From _____ To _____ Date of Graduation _____

List your special skills (licenses, certificates, typing speed, etc.) _____

List honors you have received _____

List your extra-curricular high school activities _____

List your hobbies and special interests _____

List all occupations in which you have been employed for a significant period:		
Employer	Nature of Work	Dates of Service

List two character references (do not include relatives or fellow students)

Name	Address	Occupation
Name	Address	Occupation

Is this your first application to Northern Essex? ☐ YES ☐ NO

How did you learn about the College? _____

In which associate degree program are you interested? _____

What are your present plans after graduation from Northern Essex?	Title of program
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Have you applied for admission to other colleges? ☐ YES ☐ NO. If YES, please list the colleges to which you have applied _____

In your own handwriting, please tell us why you wish to attend Northern Essex:

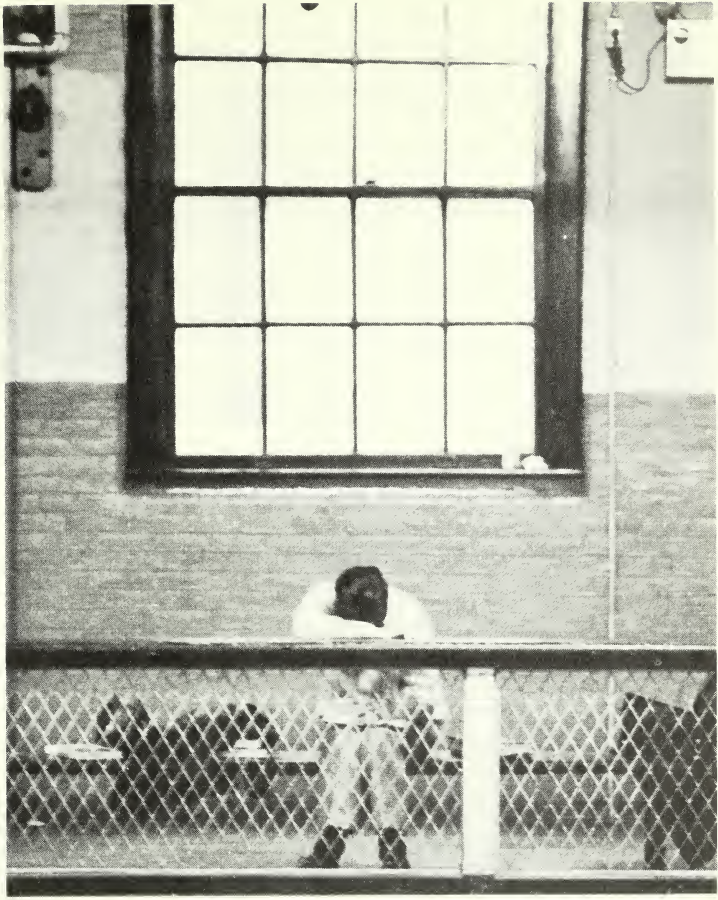
I hereby apply for admission to Northern Essex Community College and enclose herewith a non-refundable Application Fee of \$10.00. I will accept the findings of the Admissions Office as final. If admitted, I agree to accept the regulations and requirements of the College, and will cooperate with the students, faculty, and administration in the maintenance of high scholastic standards and acceptable conduct. I will accept class times and schedules as arranged, and will at all times consider myself to be a representative of the College on campus and in all my social and community relationships.

Signature of Applicant	Approval of Parent or Guardian (Required of applicants under age 21)
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DO NOT WRITE BELOW THIS LINE

Application Fee

Re-Entry



Admission with Advanced Standing

Applicants who have completed courses at accredited colleges or universities may transfer such courses to Northern Essex and be admitted with advanced standing under the following conditions:

Transfer credit is given at the discretion of Northern Essex Community College

Transfer courses must be applicable to the curriculum of the particular program in which the student enrolls

Transfer courses must have been completed by the student with a grade of "C" or higher

A student must complete his final year of work at Northern Essex Community College.

Schedule of Fees

The Massachusetts Board of Community Colleges establishes mandatory and discretionary fee schedules for all community colleges in the Commonwealth. At the present time, Northern Essex limits charges to the following fees:

Day Division Fee Schedule

Application Fee	\$ 10.00
Activity Fee: Per year, full-time students	\$ 35.00
Per year, part-time students	\$ 17.50
Insurance Fee	\$ 2.50
Degree Candidate's Fee	\$ 15.00
Tuition: Massachusetts residents	
Per semester, full-time students	\$100.00
Per credit hour, part-time students	\$ 13.00
*Massachusetts non-residents	
Per semester, full-time students	\$250.00
Per credit hour, part-time students	\$ 13.00
Transcript Fee	\$ 1.00
(Per copy after initial copy at no cost)	

*Massachusetts non-residents may qualify for New England Regional Student Program assistance to reduce tuition costs. Inquiries should be made to the Office of Admissions at the College.

Division of Continuing Education Fee Schedule
(Evening division and summer session)

Registration Fee	\$ 3.00
Application for Degree Status Fee	\$ 10.00
Tuition (Per credit hour)	\$ 18.00

Full-time and Part-time Students

A full-time student is any student carrying twelve credit hours or more.

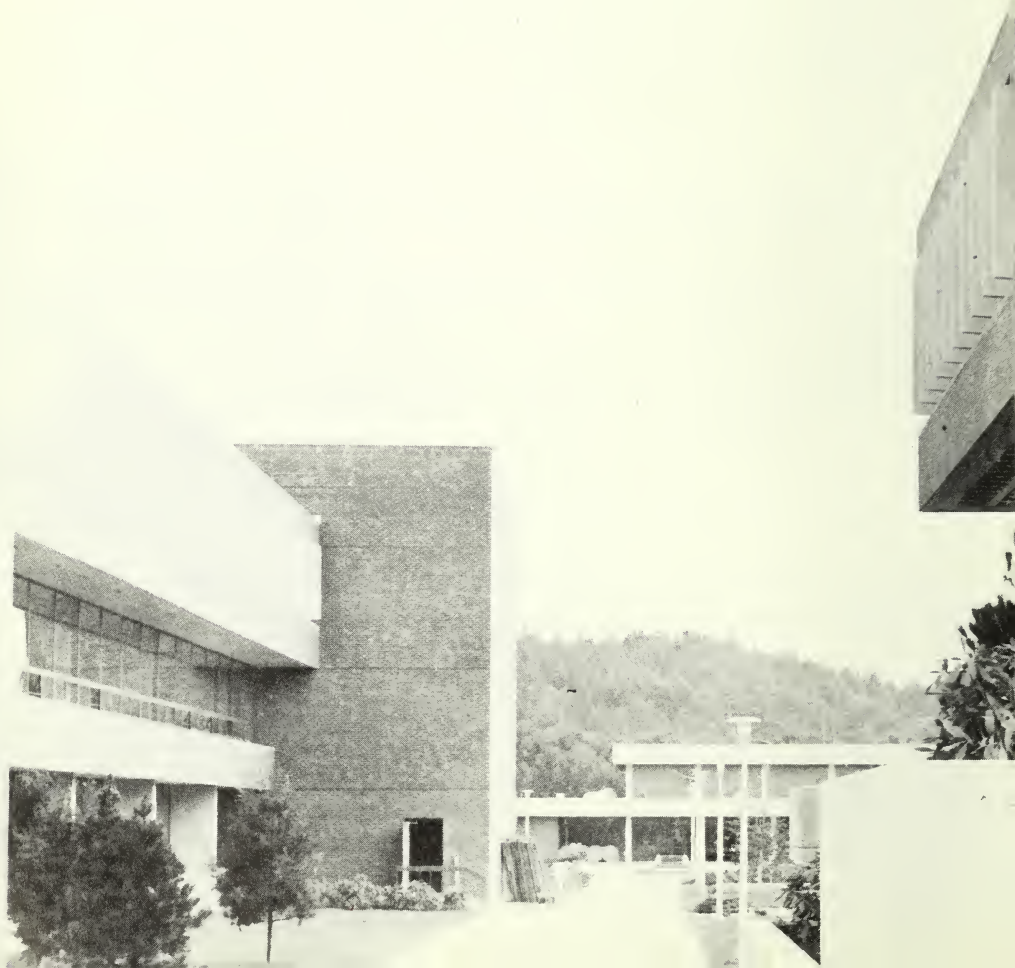
A part-time student is any student carrying less than twelve credit hours.

Books and Supplies

Textbooks and other supplies are available at the Northern Essex Community College Bookstore.

Although the exact cost of books and supplies depends upon course selections, costs usually run approximately \$10.00 to \$15.00 per course. Students are required to obtain basic texts for each course and should plan to spend an average of \$45.00 to \$60.00 for books and supplies each semester.

All purchases from the Bookstore are on a cash basis. Checks payable to the N.E.C.C. Bookstore are acceptable.



The Activity Fee

All students are required to pay the Activity Fee which is non-refundable.

Students become members of the Student Government Association when the Activity Fee is paid. The fee promotes and supports activities which enrich the social and educational life of students as a whole. It finances student clubs, athletic equipment and events, school social events, and school publications. The fee also partially subsidizes publication of the College yearbook.

The Activity Fee entitles the student to:

Subscriptions: to the College newspaper
 to the College events bulletin
 to the College literary magazine
 to the Student Handbook

Admission: to Freshman Orientation Day
 to Field Day
 to designated social activities.

Receipt: of an official identification card





Academic Policies of the College

The Grading System

Grades are issued to students by mail at the close of each semester. No grades are issued via telephone. For each course attempted, the student receives a letter grade, the number of credit hours earned, and the quality points earned. The quality points earned for all courses are computed and the student receives a quality point average.

A	— Excellent	Full	4
B	— Good	Full	3
C	— Fair	Full	2
D	— Passing	Full	1
F	— Failing	None	0
W	— Withdrawal	None	Not computed
WP	— Withdrawal/Passing	None	Not computed
WF	— Withdrawal/Failing	None	0
INC	— Incomplete	None	Temporary 0

Letter grades A—B—C—D are passing grades earning full credit, and quality points as indicated.

Letter grades F—WF are failing grades and the quality point 0 is computed in the students quality point average. No credit is given for any course completed with F or WF.

Letter grade INC is a temporary grade recorded when a student has failed to complete all course work, or has not taken the final examination for a course. Each INC grade will be computed as an F in figuring a temporary quality point average. When the INC grade is changed to a permanent grade, the quality point average record will also be changed. The student will be notified of his final grade.

Letter grades W—WP carry no credit and are not computed in the student's quality point average.

A student's quality point average is determined by dividing the number of credit hours attempted in a semester into the number of quality points earned in the same semester. The quality point average is cumulative.

Academic Standing

The quality point averages required for good academic standing are:

- 1.50 at beginning of second semester
- 1.75 at beginning of third semester
- 1.90 at beginning of fourth semester
- 2.00 at graduation

Academic Probation

A student is placed on academic probation if his quality point average falls below:

- 1.50 at close of first semester
- 1.75 at close of second semester
- 1.90 at close of third semester

The College reserves the right to advise both student and parent of academic probation, and the advisability of abandoning, or severely curtailing, extra-curricula activities or employment.

If a student is placed on academic probation and fails to achieve the required quality point average in the following semester, he will be asked to withdraw from the College.

Academic Suspension

A student is placed on academic suspension and dropped from the rolls of the College if his quality point average falls below:

- 1.00 at close of first semester
- 1.50 at close of second semester
- 1.75 at close of third semester
- 2.00 at close of fourth semester

Students on academic suspension are encouraged to raise their quality point averages and continue their education through successful completion of courses in the Division of Continuing Education at Northern Essex. When suspended students have raised their quality point average satisfactorily, they may attempt readmission by initiating a new application file.

Students may also be readmitted at a later date after a period of maturation.



Make-up Work

Initiative for make-up work must come from the student. A grade of INC can be changed from the temporary F grade if a student makes up the work missed under the following conditions:

The instructor is satisfied with the reasons why the work was not completed

The instructor feels that make-up work will result in a passing grade

The make-up work is submitted within fourteen calendar days after the last day of classes in a semester.

Without submission of permitted make-up work, a permanent grade of F will be noted on a student's record for every INC grade on the fifteenth calendar day after the last day of classes in a semester.



Changing Courses

In order to add, substitute or withdraw from a course, students must obtain a written recommendation from the instructor involved, and the permission of the Registrar of the College.

Up to, and including, six academic days from the beginning of a semester, students may add, substitute, or withdraw from a course without penalty and without notation on their records. No courses may be added or substituted after this period.

Up to, and including, thirty academic days from the beginning of a semester, students may withdraw from a course without penalty. A grade of W will be noted on their records, but will not be computed in their quality point averages.

From the thirty-first academic day after the beginning of a semester up to, and including, the last day of a semester, a grade of WF or WP will be noted on the records of students who drop courses during this period. The WF grades will be computed in the students' quality point averages.



Repeating Courses

Students who wish to repeat courses in which they received a grade of F or D may do so in a number of ways:

The student may take an identical course in the Division of Continuing Education

The student may try to take the course as a special student in the Day Division providing the course is not offered in the Division of Continuing Education, and providing there is room in the Day Division course

The student may repeat the course during his regular schedule of courses providing he does not carry more than five courses during the semester.

When a D or F graded course is repeated, the last grade received will be computed in the Quality Point Average. The original grade will not be computed in the Quality Point Average.

Repetition of a course after two attempts must be approved by the Student Academic Affairs Committee of the Academic Council.

Withdrawal from the College

A student who withdraws from the College for any reason must notify the Dean of Students on the prescribed forms.

If a student does not comply with the above regulation, a grade of F will be noted on his record for each course dropped, and these grades will be computed in the student's quality point average.

Up to, and including, thirty academic days from the beginning of a semester, a student may withdraw from the College without penalty. A grade of W will be noted on his record for each course dropped, but these grades will not be computed in his quality point average.

After thirty academic days from the beginning of a semester, a grade of WF or WP will be noted on a student's record for each course dropped during this period. The WF grades will be computed in his quality point average.

In special cases involving prolonged illness or serious family problems, exceptions may be made to the College's policy on withdrawals. Such exceptions will be determined by the administration of the College.

Readmission to the College

Northern Essex has no specific policy on readmission procedures. Students who withdraw from the College in good academic standing, and students who must interrupt their college careers for a semester or more because of illness or family problems, may be readmitted to the College by initiating a new application file.

Students may also attempt readmission through successful completion of courses taken in the Division of Continuing Education. The College encourages students with low quality point averages, but a strong motivation toward continuing their education, to attempt this route to readmission.

Absences

Students are expected to attend every meeting of each course in which they are enrolled.

The course instructor has full and final authority to allow, disallow, or establish terms for make-up work.

At the time of a student's fourth, or subsequent absence, a course instructor may recommend, in writing, that the student be dropped from the course for non-attendance and a grade of F given. The student will be warned of such impending action by the instructor, in writing, prior to the fourth or last absence.



Academic Honors

The Dean's List

Each semester a student is appointed to the Dean's List for academic honors if he fulfills the following requirements:

He is a candidate for a degree

He is carrying fifteen or more credit hours within the semester

He attains a quality point average of 3.00 or higher within the semester.

Academic Distinction

High honors are awarded during Commencement to all students with a cumulative quality point average of 3.50 or higher.

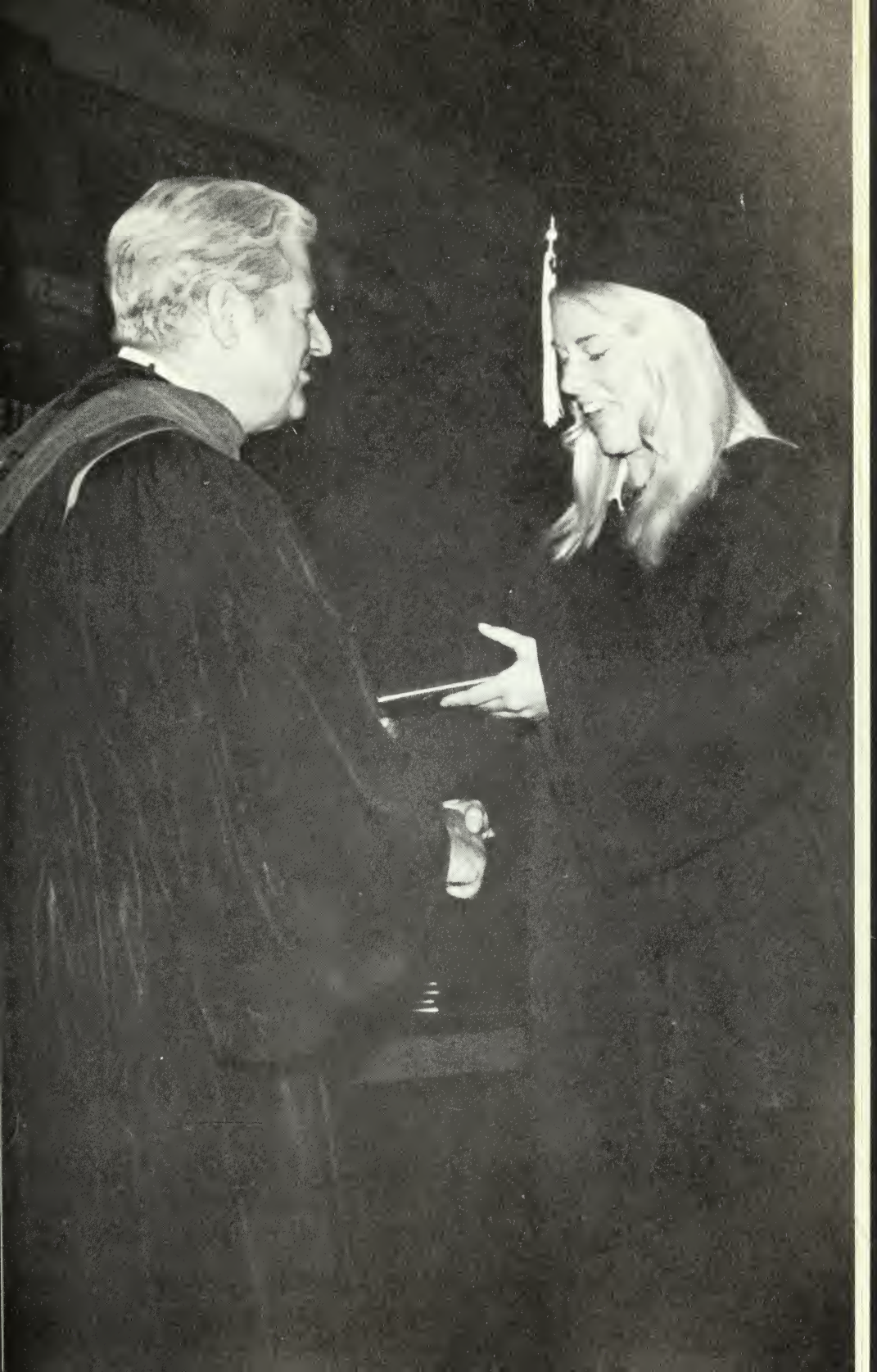
Honors are awarded during Commencement to all students with a cumulative quality point average from 3.00 to 3.49, inclusive.

Graduation

Northern Essex Community College awards associate degrees in Arts and in Science to all qualified students at commencement exercises for each class.

In order to receive this award, students must meet the following requirements for graduation:

1. Completion of the number of courses prescribed in a particular curriculum
2. Completion of all required courses in a curriculum with a passing letter grade
3. Completion of at least sixty-two credit hours
4. Attainment of a cumulative quality point average of 2.00 or higher
5. Payment of all financial obligations
6. Participation in commencement exercises.



Campus Life

Northern Essex offers many opportunities beyond the classroom. There is a full schedule of activities throughout the year planned to provide for students with established talents and interests, and for students who want to try a totally new experience.

Students may participate in as many areas of activity as their interests, ambition, and available time permit. Informal education carries no credit toward a degree, but the personal growth and creative experience enjoyed is vital to a good education.

At Northern Essex, every student can enlarge his circle of friends, exchange ideas and experiences with others, gain a wider personal perspective and enjoy himself. Student activities are one of the action parts of learning.

Northern Essex helps students use their experiences in these important first two years of college to provide a sound foundation for whatever comes later — further study, work, professional training, or marriage.

Northern Essex aims at continuing its development as an educational, technical and cultural center for the Merrimack Valley region of the Commonwealth of Massachusetts.



Student Government

College student governance is an exercise in democracy. Active participation in this phase of campus life helps the student develop toward one of the ultimate goals of education — the emergence of an individual who can function effectively in the world in which he lives.

The Student Government Association is the official governing body for students at Northern Essex. Through its elected representatives and their appointees, students are involved in many different areas of governance. Each student becomes a member of the Student Government Association when he pays the activity fee.

The following structure shows the various ways in which student affairs are governed at the College:

STUDENT COUNCIL

Members of the Student Government Association elect a slate of students who speak for the entire student body as members of the Student Council.

The Student Council participates in the formation of student organizations, and takes an active role in the assessment of student needs in planning for extra- and co-curricular activities. The council is the representative voice of the students. The council acts and reacts to student demands, and brings leadership and student representation to all levels of College life.

ACADEMIC COUNCIL

Through membership on the Academic Council, students become involved in the demanding work of decision-making for the College as a whole. Twelve students represent the student body on the Academic Council.

CLASS OFFICERS

Students at Northern Essex may complete requirements for a degree in the spring or the fall semesters, depending upon the date they entered the College and other factors. There are, therefore, no freshman and senior classes, per se. However, graduation exercises are held in June of each year only and, in terms of governance, students are divided into Freshman and Senior classes according to the year in which most members of the class plan to graduate.

Freshman and senior class members elect officers who concern themselves with the affairs and activities peculiar to a group of students planning to graduate at the same time. These officers also often contribute ideas and experience to the entire college community.

STUDENT ADVISORY COMMISSIONER

The Student Government Association elects one representative to the Student Advisory Commission to the Massachusetts Regional Board of Community Colleges. This commission discusses the mutual concerns of community college students throughout the state, and makes recommendations to the regional board.

Student Conduct

A community college belongs to the people it serves — to its students and their parents. It is not an isolated entity, separate from the world around it. The College expects its students to remember that, at all times, individually and in groups, publicly and socially, they are part of the image of Northern Essex Community College.

No student, or group of students, may use or imply the name of Northern Essex in any publication, public performance, or social activity without the prior permission of the President of the College or his designated representative.

Just as the College is a part of the community, each student at Northern Essex is a part of the academic community. When he enters the College, each student assumes a personal responsibility for maintaining integrity and consideration in his dealings with others.

When a student signs the application form for Northern Essex, he commits himself to make sure that his work meets the College's standards; that he attends required classes and meets all financial obligations; that he respects the regulations, social and academic, of the College; and that he is always aware of the rights of others.

Northern Essex assumes that its students will handle themselves properly without watchdog supervision, and attempts to keep corrective action to a minimum. However, a student who neglects his commitment to the regulations of the College must expect the College to take such action as the circumstances of the case demand.



Statement on Drugs

The College complies with the State and Federal laws governing the possession, use and sale of drugs and narcotics. The possession, use or sale of drugs and narcotics on College property is unsatisfactory conduct, subject to corrective action by the College administration.

The abuse of drugs has become a serious and tragic problem in our society. While the College will energetically enforce the prohibitions on drugs on College property, it has a greater interest in helping students meet the problem of contemporary drug sub-cultures.

In recognition of the needs of many students who find themselves unable to cope with this problem, the College urges its students to seek help from our counselors. The counselors in this College have the right and the obligation to maintain privacy in all student contacts. Counselors are trained to help with such problems, and have access to outside resources to which a student may be confidentially referred. No written notes will be made of counselors' contacts with students, and no information on such contacts may be communicated which may be used for administrative action.

Corrective Action

There are three levels of corrective action used by the College in handling problems of unsatisfactory student conduct:

PROBATION

Probation limits the student's right to participate in extra-curricular activities which are sponsored by the College.

SUSPENSION

Suspension withdraws the student's right to attend classes at the College for a designated length of time. A suspended student may, at the end of the designated period, request readmission to classes.

EXPULSION

Expulsion withdraws the student's right to attend classes at the College permanently. There is no provision for the readmission of expelled students. No expelled student shall receive an honorable dismissal from the College.

Dormitory Facilities

No housing facilities are provided by, or supervised by, the College. Students who wish to move into the immediate College area may rent housing. Students are expected to respect the rights of the people from whom they rent housing, and conduct themselves courteously.



Change of Address

If at any time a student changes his legal or mailing address, he should notify the College immediately, so that his records can be brought up to date.



Clubs on Campus

Every student needs an opportunity for action outside the classroom. He needs the chance to try himself, test things out, have new experiences. Such opportunities occur in classroom work, but student activities offer an even broader opportunity.

Students see new places, meet new kinds of people, and work in relatively unstructured situations with fellow students in clubs at Northern Essex. Some students may discover in club involvement areas of interest which eventually become careers.

There are now twenty-three special interest clubs at Northern Essex and new clubs are established as students need them. Every student is eligible to choose a club which fits his personal interests and talents — or to choose a club which will open new doors for him.

This club organizes student participation in career-oriented business activities. The club is a resource for the business community in business research and economic development. Members interested in teaching offer counseling and tutorial services to other club members. The Business Club works closely with the Secretarial Club in areas of common interest.

BUSINESS CLUB

The Northern Essex Knights Chess club specializes in instruction for fledgling chess enthusiasts. The club sponsors chess meets and tournaments and encourages meets with community groups.

CHESS CLUB

This club gives members the opportunity for experience in vocal performance. Both classical and popular music are developed. The club sponsors concerts for the college and the community.

CHORAL CLUB

Members exchange views to broaden their understanding and knowledge of history and contemporary problems. The club sponsors public forums, a model United Nations delegation and lectures by guest speakers.

CONTEMPORARY AFFAIRS SOCIETY

SPANISH CLUB

El Club Espanol helps students to develop fluency in the Spanish language and a broader knowledge of, and appreciation for, Spanish culture. The club sponsors programs and social activities related to the Spanish culture.

STUDENT TEACHERS CLUB

Members of this club have the unusual opportunity of observing and doing practice teaching in the very first year of their college training. Students may work in the grade or in the subject area in which they intend eventually to teach. They go into parochial or public schools for a couple of hours, twice a week, for ten weeks. Students meet regularly to discuss their classroom experiences and problems. There are also field trips and guest speakers.

SOCIAL ACTION CLUB

This club attempts to channel the energy needed to challenge complex social problems constructively. The club concentrates on community education to social issues, and community involvement in problem solving.

STUDENT NURSE ASSOCIATION

This club aids in the preparation of student nurses for the assumption of professional responsibility. It provides opportunity for leadership, self-expression, personal and professional growth. The club is deeply concerned with developing closer bonds and more cooperative attitudes between nursing students, themselves; and between nursing students and graduate professional nursing organizations. The club is a channel of communication between nursing students and their professional futures.

HOCKEY CLUB

This club offers competitive sport for experienced players and developmental opportunities for the novice. The club is concerned with team, as well as individual, skills. It sponsors com-

petition with other hockey teams in the area and sponsors activities for the membership, the College and the community. The club hopes to become a team in the future.

Student discussion, faculty panels, and visiting lecturers are the tools used by the club members to develop their philosophical concerns and ideas.

This club provides an opportunity for exercise in weight reduction, reappportionment, etc. The club reaffirms the importance of personal hygiene and is concerned with all areas of physical education and physical improvement.

Novices get fundamental training in picture-taking techniques, development, enlargement, print-making and photo finishing skills through use of the traveling dark room of the club. It sponsors illustrated lectures, field trips, contests, and print competitions. The club also attempts to service the photographic needs of students and faculty.

This club gives students an opportunity for practical experience in many aspects of public relations, and especially in the development of a continuing relationship between graduates of the College and present day students. The club publishes the College's internal events bulletin, The Happening.

This club is involved with any and all outdoor recreational activities: camping, canoeing, mountain climbing, hiking, scuba diving, swimming, tabogganing, skating, surfing, skiing — the activities are limited only by the interests of the members. The club promotes safety and sportsmanship, and an appreciation of the benefits of outdoor life.

PHILOSOPHY CLUB

PHYSICAL FITNESS CLUB FOR WOMEN

PHOTOGRAPHY CLUB

PUBLIC RELATIONS BOARD

OUTING CLUB

SKI CLUB

Members of this club emphasize skiing as a participant sport and encourage development of the novice. The club sponsors projects and social events for the College as a whole, and plans ski trips.

DRAMA CLUB

This club, with membership and faculty participation, creates plays, talent shows and social comment scenarios to develop a deeper knowledge and interest in the dramatic arts for members, the College and the community.

ELECTRON CLUB

Members of this club focus on gaining a broader knowledge of the state of the art. The club sponsors demonstrations, field trips, and special projects. It operates the Northern Essex "radio station" which supplies music to the student lounge.

FRENCH CLUB

Members of Le Cercle Francais discover different phases of French life, develop an appreciation of the French language, and strengthen French conversational skills in informal group meetings. The club attends significant cultural events as a group.

LITERARY SOCIETY

This club gives members free range in intellectual, literary creativity in an unstructured atmosphere. The club encourages students to write for publication, and publishes the College's literary magazine, Parnassus.

CHEERLEADING CLUB

This club encourages students to learn dances, chants, songs and other techniques used to support the efforts of athletic teams at the College.

INTERNATIONAL CLUB

The aim of this club is to present students with information on the attitudes, mores and emphases of the cultures of the world — not in order to come to a conclusion on the relative worth of different cultures, but to learn, observe, appreciate and understand different cultures. Guest speakers talk about their own cul-

tures, or those they have observed while traveling. Lectures, films and slides are utilized.

This club encourages the novice to try surfing and sponsors group activities among its own members, and in conjunction with other outdoor-oriented clubs at the College.

SURF CLUB

This club promotes interest in the secretarial field as a whole, and helps to make members more aware of the many special career opportunities available. In cooperation with other interested clubs, the club is also concerned with involvement in projects for civic betterment.

SECRETARIES' CLUB

Student Publications

THE LUMEN

The Lumen publishes the College yearbook. Staff positions offer a variety of challenges to students in the many aspects of publishing.

NECCO

The Northern Essex Community College Observer (NECCO) publishes the student newspaper. NECCO is the voice of the students. There are many varied staff positions and all students are encouraged to submit articles, news releases and opinions for publication.

PARNASSUS

Parnassus publishes the College's literary magazine, and is sponsored by the Literary Society. Students are asked to submit articles, poetry, fiction, photography and art for editorial consideration.

THE HAPPENING

The Happening publishes a weekly events bulletin to give students a preview of up-coming activities, social events, athletics and new academic information. The publication is sponsored by the Public Relations Board.

THE NIGHT OWL

The Night Owl publishes a monthly newspaper reporting the activities of students attending the Evening College of the Division of Continuing Education.

Athletics

The athletic program at Northern Essex is divided into three categories to encourage student participation on many levels and to allow athletic development according to individual interest and ability:

Athletic Clubs

Club activities provide the most informal and available area of participation in athletics. Many athletic areas are already represented by clubs, and new areas are added when student interest makes them relevant.

Intramural Competition

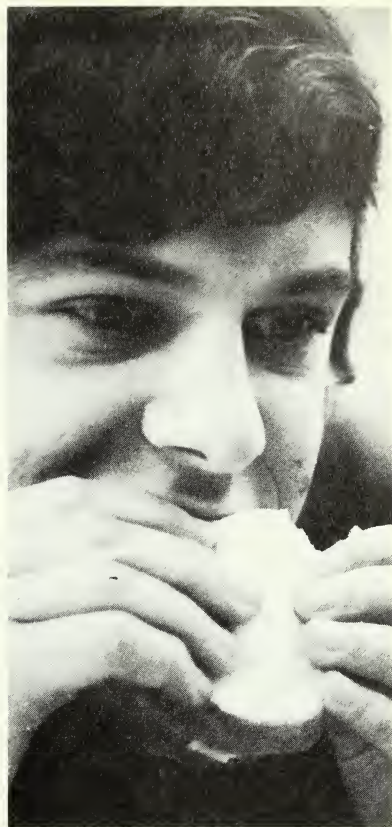
There is intramural competition at Northern Essex in basketball, volleyball, touch football, and table tennis. The basketball tournaments, held twice weekly, attract many teams.

Inter-collegiate Competition

The inter-collegiate sports program includes men's and women's basketball; golf; tennis; and cross-country. Northern Essex was the champion of the Small College Basketball League in the 1968-1969 1969-1970 and 1970-1971 seasons.

Future plans in athletics include the development of baseball, soccer and perhaps hockey on the inter-collegiate level.





Health Services

Before matriculation, students must complete a form describing their general health and any medical abnormalities of which the College should be informed.

Northern Essex does not operate an infirmary. Hale Hospital is located a short distance away and provides emergency treatment. First aid supplies are available on campus for minor emergencies.

All students are protected against accidents at the College, or during college-sponsored activities, through payment of the Activity Fee. Students may elect, at a nominal additional premium to extend coverage to the twenty-four-hour-a-day period, twelve months per year, and to extend accident coverage, and sickness coverage not involving accident.



Facilities of the College

THE LIBRARY

The Library supports the entire educational program of the College, and reflects the interests of Northern Essex students. The book collection of more than 35,000 volumes materially serves the instructional objectives of the College curriculum. Newly published works are chosen on the basis of their merit and usefulness, and new books are added constantly to enlarge and strengthen the collection. There is an open-shelf system arranged by Library of Congress classification, which enables the student to leisurely browse and discover books of particular interest to him.

The Library has a large collection of paperback books of varied interest, up-to-date college catalogs, and extensive collections of microfilm and L/P phonograph records. The Library receives two hundred and fifty-four periodicals, as well as local and national newspapers.

First year students receive formal instruction in the use of the Library, and continuous informal instruction as needed. The Library staff is always ready to help students in making effective use of all the Library's resources.

The New Campus

One edition of the College yearbook, *The Lumen*, shows a picture of a barren stretch of razed field with an old house tumbling down in the background and a power shovel angling in at the side. That field, five years ago was the extent of the new campus of Northern Essex Community College.

In the Fall of 1971, seven beautiful buildings were ready for our College community. The facilities of the new campus are the best that modern construction techniques can offer. Northern Essex is proud of its campus.

The classroom buildings contain large, airy rooms, lecture halls, seminar and conference rooms, and faculty offices. Every bit of space has been coordinated into a viable whole to make learning convenient and pleasant.

There are twenty-four laboratories in the Applied Science building, and many demonstration centers, a library, shops and an audio-visual room.

The Science building, the Library, and the Gymnasium all contain many different types of learning areas to fit the atmosphere to the specific needs of an educational subject. A Student Union building is scheduled for completion in 1972.

All the new facilities have been designed with the individual Northern Essex commuter student in mind. Students will find the new campus as vital, as attractive, and as exciting as the education he will receive there.



The College Curricula

Northern Essex is a comprehensive community college which offers transfer-oriented programs, occupationally-oriented programs and developmental programs. Through its counseling and guidance services, Northern Essex assists the student in choosing a program of education best suited to his interests and abilities.

The plan for education at Northern Essex is based on the premise that people in the Merrimack Valley community have differing abilities, needs, desires and interests; that their educational needs vary as they continue through life; and that these educational needs must be met by varying kinds of programs.

Northern Essex includes a framework of general education courses in all associate degree programs. The College encourages students to explore more than one area of study and to change programs when they discover that their needs are not met by the program in which they are enrolled.

Within this broad framework are specific curricula with individual characteristics, requirements and emphases determined by the purpose for which they are intended.

The atmosphere of growth, challenge and innovation in Northern Essex's internal development is reflected in the attitudes of faculty, administration and student body. Dynamic progress and constant self-study are ideas shared by all members of the Northern Essex academic community.

Transfer-oriented Programs

Liberal Arts
General Liberal Arts
Engineering Science
Business Transfer

The transfer-oriented programs at Northern Essex give students planning to continue their education at senior institution a fully transferable, comprehensive education equivalent to the first two years of a four-year college or university.

However, not all students have deep-seated interests when they enter college and these students use the first two years to test their aptitudes, abilities and preferences in different subjects before specializing.

The transfer-oriented programs give students the opportunity to explore a wide range of disciplines. Students in these programs do not place emphasis on marketing the knowledge they gain immediately. Students who wish to grow in general education, without transfer planning, find many interesting areas in the Liberal Arts programs.

Students in these programs usually plan to continue their education beyond the associate degree level. The courses in these programs parallel in structure and aim the first two years of the curricula in most senior institutions. They are intended for transfer, and successful completion of these courses should provide a good basis for transfer with advanced standing to a senior institution.

Completion of these programs does not, however, guarantee successful transfer. The receiving institution makes the final decision on individual transfer applications. It is the student's responsibility to make sure that he has completed the requirements of the senior institution he plans to attend.

Occupationally-oriented Programs

Accounting
 Business Management
 Secretarial Science
 Legal Option
 Medical Option
 Technical Option
 Nursing Home/Small Hospital Administration
 Computer Technology
 Electronic Technology Modular
 Civil Technology
 Child Care
 Nursing
 Medical Records Technology
 Inhalation Therapy Technology
 Inhalation Therapy Certificate
 Radiologic Technology

Here emphasis is placed on immediate marketing of knowledge and skills developed in a program. Successful completion of an occupationally-oriented program prepares the student for direct entry into jobs in public service, business and industry.

The basic structure of these programs concentrates on theoretical and technical courses in the skills necessary for a particular phase of employment. Students, however, also explore areas of general cultural significance and develop intellectually as well as professionally through the election of Liberal Arts courses.

Occupationally-oriented programs are not specifically designed for transfer to a senior institution; but they do not prohibit transfer. Many graduates of occupationally-oriented programs at Northern Essex, who have had good quality point averages, have been accepted in baccalaureate curricula at senior institutions related to their occupational courses.

Developmental Programs

The 'O' Program

Students with good high school grades and high achievement test scores are almost automatically accepted for admission into college.

Other applicants present records which discourage acceptance. Often their academic confidence has been undermined by successive failures in high school which led them to a climate of "no-expectations". Sometimes these students were unable, because of health or personal problems, to achieve in high school. Some of them decided too late to prepare properly for college. And, often these students simply needed time to mature before settling down to productive study.

What happens to these slow starters? Has their chance for a college career perished? No-more-education is a tough fact of life for these students if they think attending college is a process which absolutely must lead directly from a high school classroom to full-time college matriculation.

There are other alternatives. The 'O' (for opportunity) Program at Northern Essex is one such alternative. This program is essentially a second chance for a student to show that he can work at the college level.

Students interested in the 'O' Program meet with the staff of the College's Admissions Office to discuss their interests and abilities — and their weaknesses. An educational plan is evolved. Courses designed to strengthen existing weaknesses will be assigned. Often a class in Pre-College Mathematics or Reading Strategies is indicated: and usually two courses are assigned.

Students may register for 'O' Program assigned courses in the Summer, Fall or Spring sessions in either the Day Division or the Division of Continuing Education. Students who complete assigned courses with an average grade of "C" or higher will be admitted to Northern Essex as full-time students in a degree program.

Students who feel they need even more time before attempting full-time College work may continue their studies in the Division of Continuing Education. Courses successfully completed in this division will be credited toward a degree program, wherever appropriate, when the student decides to matriculate.

All of the resources of the College — counseling, close contact with teachers trained to assist students, financial aid, developmental courses, student activities — are available to 'O' Program students.

Many students, who might not otherwise have qualified for acceptance into a college, have matriculated at Northern Essex after participating in the 'O' Program.

The Discovery Program

The Discovery Program is a joint effort by Northern Essex and various social agencies in the Merrimack Valley to provide a developmental opportunity to high school graduates who are unsatisfactorily prepared for the courses of study offered by the College; and to assist students from racially diverse backgrounds with scholarship aid and financial assistance.

The Discovery Program is a one-semester curriculum in the area of developmental reading, mathematics, science and the humanities. Development of interest and achievement in these varied areas is the central goal of the program. An orientation week includes occupational, personality and achievement tests; group discussions; sensitivity sessions; guest lecturers and films.

Material contained in the four program courses is integrated and inter-related and instruction methods are dictated by the requirements of the course. Instruction methods include class discussion, tutorial sessions, seminars, directed study, learning laboratories using programmed material, films, and lectures. In all courses students proceed at their own rate under the close supervision of instructors and student tutors.

The courses in the Discovery Program are designed as follows:

Programmed mathematics materials which allow students to work through practical mathematics, algebra and trigonometry at their own rate

A cultural enrichment program which provides insight into the scientific, psychological, sociological, historical, and governmental nature of man: Man and His Cosmos, Man's Biological Nature, Man's Social Nature, Man and Political Structure, Man and the Ecological Crisis

Developmental reading dealing extensively with reading problems and using the reading facilities of the College's Learning Center

A writing and reading course which considers the origin of language, the social aspects of language, pre-symbolic and symbolic language, and social control through language, as these language areas relate to Man's biological and social nature

The Discovery Program stresses individual pace. The student is helped to discover for himself his own strengths and limitations. He fits language into his work and world and sees how verbal skills affect his own feelings about the world, and the image he presents to the world. He learns to view the political, social and physical environment as man-centered and discovers how to fit himself into this picture — and how to make a decision about his future plans for education.

Future Programs

Northern Essex is a college on the move. As the faculty grows and the student body grows, new curricula are developed. The most recent additions to the College's opportunity roster are an associate degree program in Child Care; Legal Secretarial, Medical Secretarial and Technical Secretarial curricula; programs in Civil Technology and Radiologic Technology; and a one-year certificate program in Inhalation Therapy. Two new programs have been developed by the Division of Continuing Education: the Associate Degree in Science — Banking, and the Associate Degree in Science — Law Enforcement.

Curricula in the planning and development stages now include associate degree programs in Dental Hygiene Technology, Data Processing Technology, Recreation Leadership, Food Services Management, Certified Occupational Therapy Assistant, Physical Education, Environmental Technology, and Administrative Assistant.

New programs will be planned and initiated in the near future in such diverse specialties as Medical Services Technology; Fire Science; Engineering Science — Chemical; Graphic Arts; Mental Health Technician; Landscape Technology; Dental Assistant; highway, industrial, mechanical and tool technologies; Medical Laboratory Assistant; and Media Technology.

Northern Essex will remain sensitive to the desires and needs of the community it serves in planning all new programs.



The Division of Continuing Education

The Evening College

Summer Sessions

GED Tests

Philosophy of the Evening College

Evening college at Northern Essex is an answer to the growing need in our world for life-long education.

Evening college is adult-centered. Courses are offered with the learning, technical and developmental needs of adults in mind. Evening college is designed to help adults expand their horizons, improve existing skills and learn new ones, grow in breadth of interest, in understanding, and in personal satisfaction.

Evening college extends the use of the College to all who can benefit from the programs offered. It brings high school drop-outs, college students who need a specific transfer course, housewives, technicians — all kinds of people from 19 to 91 (and younger, or even older) — together in a pleasurable, satisfying and exciting learning experience.

Degree Programs of the Evening College

Eight associate degree programs are available in the evening college:

The Associate in Arts Degree

Liberal Arts

General Liberal Arts

The Associate in Science Degree

Business Management

Business Transfer

Accounting

Banking

Law Enforcement

Secretarial Science

It is possible for a student to earn the associate degree at evening college in three years, by successfully completing required course work in six regular semesters and two summer sessions.

In addition to the eight degree programs offered, students may do substantial course work in the evening in the following programs:

**Engineering Science
Computer Technology
Electronic Technology
Child Care**

Future plans include the addition of several new degree programs to the evening college roster.

Aims and Objectives of the Evening College

The evening college is a vital factor in an open-door atmosphere at Northern Essex. Each course offered provides a response to known community needs.

The evening college offers college level curricula leading to the associate degree for students who wish to matriculate in a degree program.

Individual courses are available, to be taken for credit or not, by students who wish to increase their general knowledge.

Technical courses, credit and non-credit, for those who wish to learn new skills, or increase and improve existing skills are offered.

Refresher courses in technical areas are provided.

Transfer courses and college make-up courses are available.

Evening college offers special interest, non-credit courses for those who view education as recreation.

Evening college provides special courses and training sessions, when requested to do so by responsible community organizations or groups.

Courses for audit are available. Students who audit courses register as usual and pay a regular tuition, but they take no examinations, receive no grade, and earn no credit hours.

Evening college at Northern Essex tries to serve all of the people, all of the time with high quality education in a relevant, enjoyable, adult atmosphere.

Evening College Academic Standards

The only real difference between college in the day division and college in the evening is the approach students take toward their educational goals. Day division students make college a full time job. In the evening, most students are fitting education into what are usually already busy schedules at home, or on the job.

Standards and requirements in the evening college are identical to those in the day division:

Course content is identical

Scholastic standards are equivalent

Specific curriculum requirements are identical

Course hours are equivalent

Credit hours earned are identical

Counseling services are equivalent

The only exception to the rules above is the slate of non-credit courses offered to students with special interests.

Matriculation in a Degree Program

Many evening college students decide to matriculate in a degree program after completing several individual courses. Students should not delay matriculation after completion of twelve credit hours of work. The student is responsible for satisfying the degree requirements of the program he selects. The last thirty hours of work in an associate degree program must be completed at Northern Essex.

Some students who have completed twelve credit hours may not meet the requirements for admission to a degree program. These students may continue to attend evening college as special students provided they are willing to profit from college work. Credit received for courses taken while a non-degree student may be applied toward a degree, where appropriate, should the student later become a degree candidate.

Requirements for Admission to Degree Status

Students who apply for admission to degree status should take the following steps:

- Obtain and complete the application form for matriculation to degree status

- Present a high school diploma or the equivalent

- Provide transcripts of high school and college records

- Obtain recommendations from instructors at the College when individual courses have been completed prior to matriculation to degree status

Admission to the Evening College

There is no official application form for admission to evening college. There are no general requirements for admission. Any person who desires may register for any course in the curriculum. Students who wish to matriculate in a degree program, however, must fulfill the admission requirements of that program.

Registration at the Evening College

There are two methods of evening college registration:

Preregistration by mail: students may obtain a preregistration form from the College, complete the form and return it with a check or money order payable to Northern Essex Community College in the amount of:

Tuition (Per credit hour)	- \$18.00
Registration Fee	- \$ 3.00

Registration Week: registration is held during the week preceding the beginning of classes for a semester. Students may come to the College at that time, obtain counseling in the choice of courses, complete the registration form and pay the registration and tuition fees.

Withdrawal from Evening College Courses

Students who withdraw from a course prior to the 2nd class meeting are entitled to a full tuition refund. The registration fee is non-refundable. There is no refund of tuition after the stated period. Written notice of course withdrawal is required and forms are available at the office of the Division of Continuing Education.

Summer Sessions at Northern Essex

Summer sessions provide an opportunity for college students to shorten the length of their total programs. Students from other colleges may take courses. It's an opportunity for adjusting a poor course grade, and taking specific courses needed for transfer. Students in the College's developmental programs may take courses in the summer sessions. High school graduates may take basic courses and get an early start in college.

The summer sessions at Northern Essex offer many of the basic courses of the academic year. The same standards prevail in class and laboratory work as in the regular academic year. Each course is the equivalent of a semester's work.

Summer sessions are held in two sections — day classes and evening classes — for the convenience of students.

No official application form is necessary for admission to summer sessions. Enrollment in summer sessions does not imply admission to Northern Essex Community College, or admission to degree status in the Division of Continuing Education.

Registration dates for summer sessions are listed in the academic calendar. Registration is completed when the registration form is returned to the College and all fees are paid. Many students find it convenient to register early by mail. Fees must accompany the mailed registration form. No changes in registration will be permitted after the fourth morning session and the second evening session.



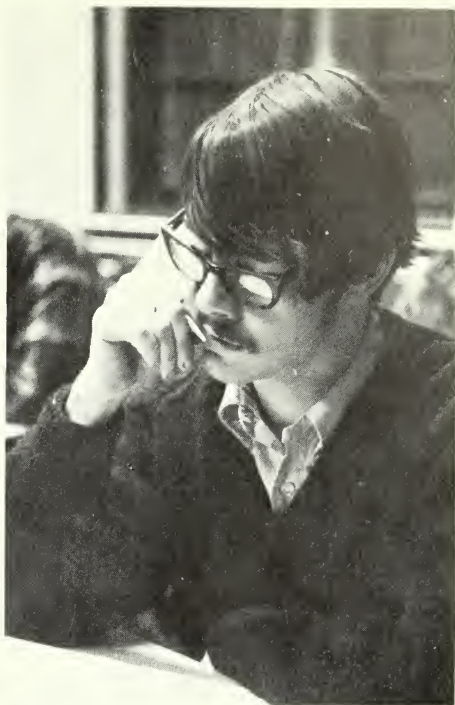
Academic Standards in the Summer Session

Courses offered during the summer sessions are identical in content, number of class hours and credit hours earned to courses offered during the regular academic year.

The pace of course work in the summer sessions is accelerated and students are expected to maintain regular attendance. Students are limited to thirteen credit hours of course work (including both morning and evening section courses) except with the permission of the Director of Continuing Education. Some students may be further limited in the number of credit hours permitted.

Students are permitted to audit courses. The usual registration forms must be completed and there is no reduction in fees due to audit status. An auditor does not take examinations, receives no grade, and earns no credit hours.

The College reserves the right to restrict the registration in any course, to reschedule any course, to section and provide additional instructors for any course which is overcrowded, and to withdraw any course for which there is insufficient registration.



Withdrawal from Summer Session Courses

Students who withdraw from a course prior to the second class meeting are entitled to a full tuition refund. Withdrawals from courses after the second class meeting will involve no reimbursements. The registration fee is non-refundable. Written notice of course withdrawal is required and forms are available at the office of the Division of Continuing Education. Students withdrawing from the morning section prior to the fifth class meeting are entitled to a full tuition refund. Students withdrawing from the evening section prior to the third class meeting are entitled to a full tuition refund. There are no refunds for withdrawal after the stated time periods. Written notice of withdrawal is required and forms are available at the Office of the Division of Continuing Education.

Counseling is available during registration and throughout the summer session by appointment.

GED Tests

General Educational Development (GED) Tests evaluate the life experience of adults and relate these experiences to formal high school education. Passing GED test scores are the equivalent of a high school diploma.

GED tests have received recognition by institutions of higher education, business, industry, state civil service commissions, licensing bureaus, and the Armed Forces of the United States. Many colleges and universities will accept adults who have achieved test scores consistent with their standards for admitting regular high school graduates. These test scores are accepted in lieu of a high school transcript. A number of people who earned their high school equivalency diplomas by testing at Northern Essex are now students in the college's Division of Continuing Education. Some attend Northern Essex, and other colleges, on a full-time basis.

Many jobs in business, industry, state civil service commissions, and in semi-professional areas, for which the applicant must be licensed, require that the individual be a high school graduate. The possession of a high school equivalency certificate, issued on the basis of GED tests, satisfies this requirement.

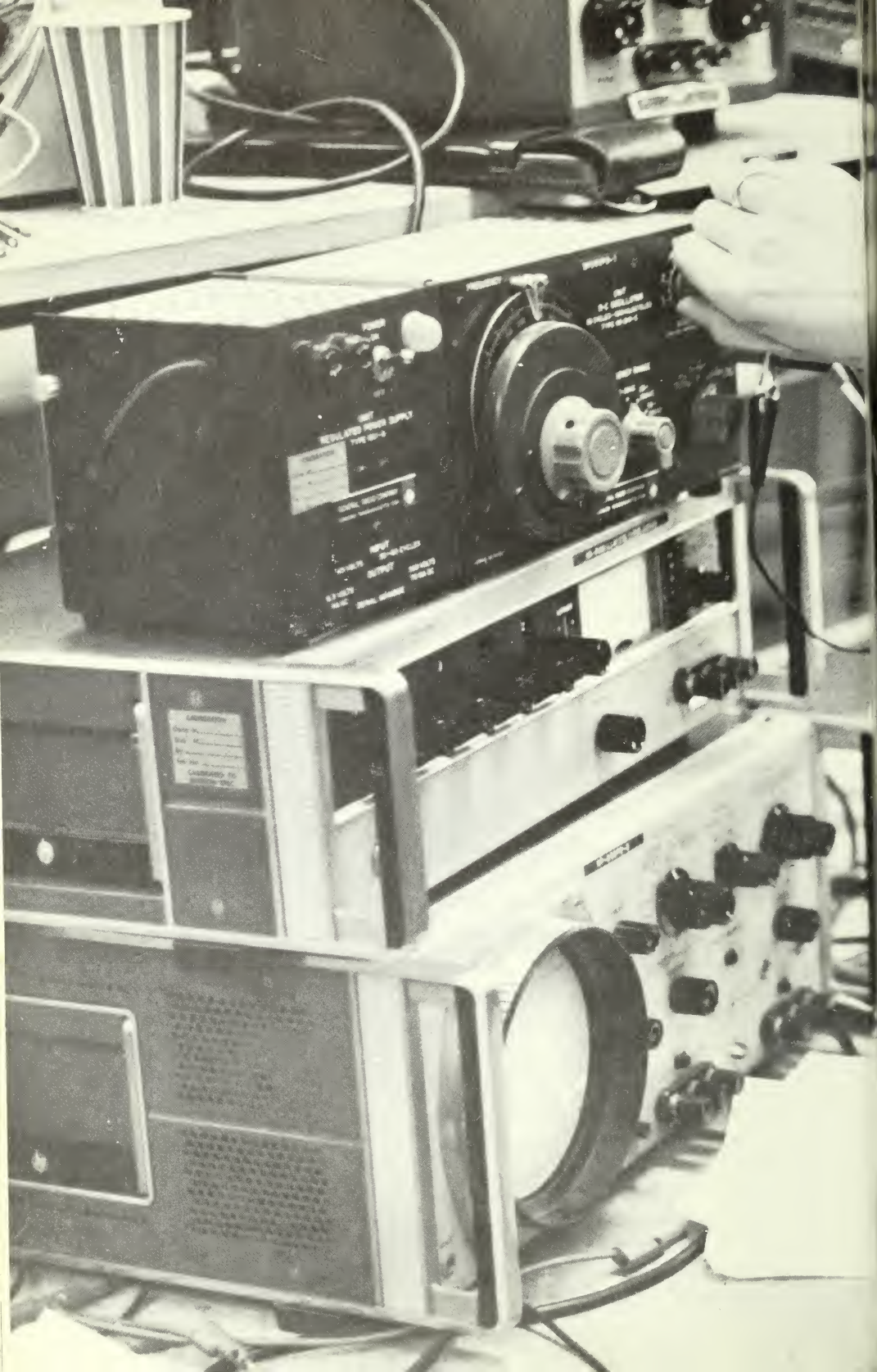
Many people take the GED tests to secure a high school credential for personal satisfaction. The morale factor and the encouragement to pursue personal educational ambitions are important aspects of the GED testing program at Northern Essex.

Northern Essex Community College is an official test center for the General Educational Development Testing Program established by the State Department of Education. Over eight hundred people have been tested at the center since 1968.

Each adult who successfully completes a series of five GED tests may apply for a High School Equivalency Diploma. In the State of Massachusetts, the issuance of the diploma has been based solely on results of GED test scores since July, 1967. The GED tests are given periodically at Northern Essex. The entire battery of five tests can be taken in about ten hours. Those who wish to take the tests should file an application, available at the College. Applicants will be notified in advance of the next date for testing.

Applicants for the High School Equivalency Certificate must be at least twenty years old. This requirement is waived for residents of Massachusetts who are at least nineteen years of age, and who have not been in full-time school attendance for one year immediately preceding the time of examination.

Costs are minimal. A five-dollar testing fee is payable to the Northern Essex Community College Test Center upon application. A five-dollar fee, payable to the Massachusetts Department of Education, covers evaluation of test scores and the issuance of the equivalency certificate. Out-of-state residents apply to their home state departments of education for the certificate, but may take the GED tests at Northern Essex.





Curriculum

THE ASSOCIATE IN ARTS DEGREE

LIBERAL ARTS

The Liberal Arts Program is a transfer curriculum designed for students planning to continue their education at a four-year college or university. To broaden their educational base, students are required to take courses in communications and the sciences. Intermediate competency in a modern foreign language, and two years of natural science are mandatory. The course also includes seminars and the preparation of research papers. Counselors will help the student select electives leading to major and minor sequences in their chosen fields of specialization.

FIRST SEMESTER

Course	Credit
English Composition I	3
Finite Mathematics I	3
Science	4
Foreign Language	3
Social Science	<u>3</u>
	16

SECOND SEMESTER

Course	Credit
English Composition II	3
*Mathematics	3
Science	4
Foreign Language	3
Social Science	<u>3</u>
	16

THIRD SEMESTER

Course	Credit
Literature I	3
Science	4
Foreign Language	3
Social Science	3
Elective	<u>3</u>
	16

FOURTH SEMESTER

Course	Credit
Literature II	3
Science	4
Foreign Language	3
Social Science	3
Elective	<u>3</u>
	16

*One of the following: Finite Mathematics II
Statistics
Elementary Functions

PREREQUISITES FOR ADMISSION

Four years of high school English
Two years of a modern foreign language
Two years of high school mathematics
One year of a laboratory science

THE ASSOCIATE IN ARTS DEGREE GENERAL LIBERAL ARTS

The General Liberal Arts Program is designed for the student who has not yet decided upon the educational objectives best suited to his interests and potential. Maximum elective choice enables the student to explore different areas, and to spend more time discovering his abilities. One year of science is required. Students in this curriculum should consult regularly with counselors to assess and evaluate the electives selected.

FIRST SEMESTER

Course	Credit
English Composition I	3
Finite Mathematics I	3
Science	4
Social Science	3
Elective	<u>3</u>
	16

SECOND SEMESTER

Course	Credit
English Composition II	3
*Mathematics	3
Science	4
Social Science	3
Elective	<u>3</u>
	16

THIRD SEMESTER

Course	Credit
Literature I	3
Social Science	3
Elective	3
Speech	3
Elective	<u>3</u>
	15

FOURTH SEMESTER

Course	Credit
Literature II	3
Social Science	3
Elective	3
Elective	3
Elective	<u>3</u>
	15

*One of the following: Finite Mathematics II
Statistics
Elementary Functions

PREREQUISITES FOR ADMISSION

Four years of high school English
Two years of high school mathematics
One year of a laboratory science

THE ASSOCIATE IN SCIENCE DEGREE ENGINEERING SCIENCE

The Engineering Science Program is designed to prepare the engineering student for transfer to a four-year college or university. This core curriculum has been developed in cooperation with the American Association for Engineering Education, and the engineering divisions of several four-year institutions. The core curriculum allows the student the opportunity to explore various engineering fields, and equips him to choose the field of specialization best suited to his interests and abilities. The fields of engineering include chemical, civil, electrical, industrial and mechanical engineering. A strong background in mathematics is required.

FIRST SEMESTER

Course	Credit
English Composition I	3
Advanced Trigonometry/ Analytic Geometry-MA5661	4
Elective	3
General Chemistry I	4
Speech	3
	<u>17</u>

SECOND SEMESTER

Course	Credit
English Composition II	3
Calculus I (Technical) MA5683	4
Graphics	2
Engineering Physics I	4
General Chemistry II	4
	<u>17</u>

THIRD SEMESTER

Course	Credit
Calculus II (Technical) MA5684	4
Engineering Mechanics I	3
Engineering Physics II	4
Literature I	3
Networks I	4
	<u>18</u>

FOURTH SEMESTER

Course	Credit
Differential Equations MA5685	4
Engineering Mechanics II	3
Engineering Physics III	4
Literature II	3
Networks II	4
	<u>18</u>

PREREQUISITES FOR ADMISSION

Two years of algebra
Geometry
Trigonometry
Physics or Chemistry

THE ASSOCIATE IN SCIENCE DEGREE ELECTRONIC TECHNOLOGY *

The Electronic Technology Program is designed primarily to equip the student for employment (often as an Engineering Assistant) with immediately marketable skills in electronic technology. The curriculum concentrates on the development of complex, interdependent electronic techniques. Heavy emphasis is placed on the use of state-of-the-art devices, laboratory equipment, and the preparation of complete, analytical laboratory reports. A film program and field trips are included in the course. Recently, Bachelor of Arts in Technology programs have been developed nation-wide, and students who plan to continue their education at a four-year institution should consider these new programs.

FIRST SEMESTER

Course	Credit
English Composition I	3
Algebra & Trigonometry	4
Applied Physics I	4
D. C. Circuits	4
Basic Concepts of Engineering	1
Personal & Professional Development	<u>0</u>
	16

SECOND SEMESTER

Course	Credit
English Composition II	3
Advanced Algebra & Trigonometry	4
Applied Physics II	4
A. C. Circuits	4
Graphics	<u>2</u>
	17

THIRD SEMESTER

Course	Credit
Advanced Technical Mathematics I	4
Semiconductors	4
Electronics I	5
Advanced Circuits	4
Elective (Liberal Arts)	<u>3</u>
	20

FOURTH SEMESTER

Course	Credit
Advanced Technical Mathematics II	3
Electronics II	5
Electrical Measurements	4
Applied Industrial Electronics	4
Elective (Liberal Arts)	<u>3</u>
	19

PREREQUISITES FOR ADMISSION

Four years of high school English
Two years of algebra

* This program will be replaced by the Electronic Technology Modular Program, an experimental program, during the 1971-1972 academic year.

THE ASSOCIATE IN SCIENCE DEGREE ELECTRONIC TECHNOLOGY MODULAR **

The Electronic Technology Modular Program primarily equips students for employment, often as Engineering Assistants. The curriculum develops complex, interdependent electronic techniques with heavy emphasis on use of state-of-the-art devices, laboratory equipment, and the preparation of complete, analytical laboratory reports. Modules of varying length and content allow the students to concentrate all of their efforts in a limited area of study at any given point during the first year. The modules allow full preparation for the advanced technical courses offered in the second year. A film program and field trips are included. Courses may be applied to Bachelor of Arts in Technology programs at four-year institutions.

FIRST and SECOND SEMESTERS

			Class-Lab	
			Hrs.	Credit
Module 1	English Composition I	2 weeks	6	*
	Basic Concepts of Engineering	2 weeks	20	1
	Personal & Professional Development	2 weeks	10	0
Module 2	English Composition I	4 weeks	12	*
	Algebra & Trigonometry	4 weeks	80	4
Module 3	English Composition I	4 weeks	12	*
	Applied Physics I	4 weeks	76	4
Module 4	English Composition I	4 weeks	12	3
	D. C. Circuits	4 weeks	76	4
Module 5	English Composition II	4 weeks	12	*
	Advanced Algebra & Trigonometry	4 weeks	80	4

Module 6	English Composition II	4 weeks	12	*
	Applied Physics II	4 weeks	76	4
Module 7	English Composition II	4 weeks	12	*
	A. C. Circuits	4 weeks	76	4
Module 8	English Composition II	2 weeks	6	3
	Graphics	2 weeks	40	<u>2</u>
				33

*English Composition I is carried throughout the first semester series of modules and English Composition II is carried throughout the second semester series of modules. Credit for each of the courses is allowed at the end of the semester.

THIRD SEMESTER

FOURTH SEMESTER

Course	Credit	Course	Credit
Advanced Technical Mathematics I	4	Advanced Technical Mathematics II	3
Semiconductors	4	Electronics II	5
Electronics I	5	Electrical Measurements	4
Advanced Circuits	4	Applied Industrial Electronics	4
Elective (Liberal Arts)	<u>3</u>	Elective (Liberal Arts)	<u>3</u>
	20		19

PREREQUISITES Two years of algebra
FOR ADMISSION Four years of high school English

**This program is an experimental approach to the curriculum which will be offered during the 1971-1972 academic year.

THE ASSOCIATE IN SCIENCE DEGREE COMPUTER TECHNOLOGY

The Computer Technology Program is designed primarily to prepare the student for employment opportunities with immediately marketable skills in data processing. Graduates have entered varied areas of computer technology, including programming, system analysis training programs and data processing management. The curriculum is based almost entirely on various skill techniques which are interdependent in their development and which are based on a strong background in mathematics, accounting and communications. The course includes field trips to computer installations. The college's computer facilities are used extensively for work shops. The program has transfer potential to four-year institutions, and students who plan to continue their education beyond the associate degree level should select their electives to fulfill the requirements for transfer of the four-year institution they choose.

FIRST SEMESTER

Course	Credit
English Composition I	3
Finite Mathematical Models I	3
Introductory Accounting I	3
Fundamentals of Digital Logic	3
Business Programming I	4
	16

SECOND SEMESTER

Course	Credit
English Composition II	3
Finite Mathematical Models II	3
Introductory Accounting II	3
Speech	3
Scientific Programming	4
	16

THIRD SEMESTER

Course	Credit
Introduction to Statistics	3
Technical Writing	3
Elective	3
Assembly Programming	4
Elective (Liberal Arts)	<u>3</u>
	16

FOURTH SEMESTER

Course	Credit
Elective	3
Business Programming II	4
Systems Development & Design	4
Advanced Programming	4
Elective (Liberal Arts)	<u>3</u>
	18

PREREQUISITES FOR ADMISSION

Two years of algebra

THE ASSOCIATE IN SCIENCE DEGREE CIVIL TECHNOLOGY

The Civil Technology Program provides students with theoretical and practical knowledge and experience which trains them as qualified technicians in the surveying, layout, plans and specifications, designs, and supervisory areas of the growing construction field. Broad construction site experiences are part of the curriculum. The theory presented also prepares students interested in education beyond the associate degree level.

FIRST SEMESTER

Course	Credit
English Composition I	3
Algebra & Trigonometry	4
Graphics	2
Applied Physics I	4
Surveying I	<u>4</u>
	17

SECOND SEMESTER

Course	Credit
English Composition II	3
Advanced Algebra & Trigonometry	4
Drawing for Civil Technology	1
Applied Physics II	4
Surveying II	4
Elective	<u>3</u>
	19

THIRD SEMESTER

Course	Credit
Advanced Technical Mathematics I	4
Mechanics for Civil Technology	3
Highway Engineering I	4
Sanitation	3
Elective	<u>3</u>
	17

FOURTH SEMESTER

Course	Credit
Computer Applications to Civil Technology Problems	4
Soil Mechanics	3
Highway Engineering II	4
Building Materials	4
Elective	<u>3</u>
	18

PREREQUISITES FOR ADMISSION

Two years of algebra
Geometry and trigonometry helpful,
but not required

THE ASSOCIATE IN SCIENCE DEGREE

ACCOUNTING—BUSINESS MANAGEMENT—BUSINESS TRANSFER

Curricula in Accounting, Business Management and Business Transfer are offered in the Department of Business. The first two semesters in all three programs are identical. This first year core of basic business and liberal arts course introduces the student to broad areas of business, and enables him to choose the particular business specialization best suited to his needs and abilities. The core curriculum also expands the student's general knowledge and understanding through selected liberal arts requirements.

CORE CURRICULUM

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Introductory Accounting I	3	Introductory Accounting II	3
*Mathematics of Finance	3	*Business Statistics	3
Principles of Marketing	3	Speech	3
Principles of Sociology		Introduction to Psychology	
or	3	or	3
Introduction to Psychology		Principles of Sociology	
	<u>15</u>		<u>15</u>

*A liberal arts mathematics course should be elected in place of Mathematics of Finance and Business Statistics by qualified students.

After successfully completing the courses in the core curriculum students may decide on a business program for the third and fourth semesters. When a program offers a wide choice of Business Electives, the student should select courses carefully, to build a strong background in a particular business field.

BUSINESS AREAS

The **ACCOUNTING PROGRAM** is designed to prepare the student to enter business, industry and government in the specialized accounting field.

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Business Finance	3	Survey of Economics	3
Business Law	3	Personnel Management	3
Intermediate Accounting I	3	Intermediate Accounting II	3
Cost Accounting	3	Tax Accounting	3
*Man and His Environment	3	Elective	3
	<u>15</u>		<u>15</u>

*Another science course may be elected in place of this requirement.

The **BUSINESS MANAGEMENT PROGRAM** will qualify graduates to enter business and industry in any of several areas. Via the choice of business electives, the student may direct his interest toward marketing, retailing, insurance, real estate or industrial management.

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Business Finance	3	Survey of Economics	3
Business Law	3	Personnel Management	3
Business Elective	3	Business Elective	3
Business Elective	3	Business Elective	3
Elective	3	*Man and His Environment	3
	<u>15</u>		<u>15</u>

*Another science elective may be elected in place of this requirement.

THE BUSINESS ELECTIVES

Advertising	Principles of Real Estate
Credits and Collections	Tax Accounting
Retailing	Cost Accounting
Salesmanship	Industrial Management
Business Law II	Managerial Accounting
Principles of Insurance	Time and Motion Study
Introduction to Data Processing	

The **BUSINESS TRANSFER PROGRAM** is designed for students who plan to transfer to a four-year institution after completing the associate degree program. Students who enroll in this program must have demonstrated academic ability in the first two semesters, be recommended by the Chairman of the Department of Business, and be approved by the Dean of Students.

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Principles of Economics I	3	Principles of Economics II	3
Natural Science	4	Natural Science	4
*Elective	3	*Elective	3
*Elective	3	*Elective	3
*Elective	3	*Elective	3
	<u>16</u>		<u>16</u>

*Electives should be chosen to fulfill the transfer requirements of the particular four-year institution the student plans to attend.

THE ASSOCIATE IN SCIENCE DEGREE
EXECUTIVE SECRETARIAL
LEGAL OPTION
MEDICAL OPTION
TECHNICAL OPTION

The Executive Secretarial Program, with legal, medical and technical options, is designed to help students develop superior secretarial skills and abilities in business decision-making and problem-solving activities. The curriculum offers a balanced program of academic and occupational courses leading to specialization in secretarial positions on the administrative and executive levels. The college-trained secretary finds a wide variety of opportunities in every business and in every profession. The purpose of the legal option is to prepare students for responsible positions in the legal field. The medical option provides preparation for work in doctors' offices and in other businesses directly related to medical practice. The purpose of the technical option is to enable students to acquire the knowledges and skills needed for employment as secretaries in technical offices relating to the science or engineering fields. Business tours, field trips, and demonstrations of innovations in office equipment are available.

CORE CURRICULUM

FIRST SEMESTER		SECOND SEMESTER	
Course	Credit	Course	Credit
English Composition I	3	English Composition II	3
Mathematics of Business	3	Elements of Accounting	3
*Shorthand I, II or III	3	Shorthand II, III or IV	3
*Typewriting I, II or III	3	Typewriting II, III or IV	3
Elective (Liberal Arts)	3	Introduction to Psychology	3
	<u>15</u>		<u>15</u>

*Entering freshmen should choose appropriate course after consultation with counselor or departmental advisor.

EXECUTIVE SECRETARIAL

THIRD SEMESTER		FOURTH SEMESTER	
Course	Credit	Course	Credit
Shorthand III, IV or V	3	Shorthand IV, V or Secretarial	3
Secretarial Procedures I	3	Science Elective	3
Typewriting III or Elective	3	Business Law	3
Office Machines	1	Speech	3
Elective (Science)	3-4	Elective (Liberal Arts)	3
Literature	3	Elective	3
	<u>16-17</u>		<u>15</u>

LEGAL OPTION

THIRD SEMESTER

Course	Credit
Shorthand III, IV or V	3
Business Law I	3
Legal Stenography	3
Secretarial Procedures I	3
Typewriting III or Elective	3
Office Machines	<u>1</u>
	16

FOURTH SEMESTER

Course	Credit
Legal Dictation and Transcription	3
Business Law II	3
Speech	3
Elective (Liberal Arts)	3
Elective (Science)	<u>3-4</u>
	15-16

MEDICAL OPTION

THIRD SEMESTER

Course	Credit
Shorthand III, IV or V	3
Secretarial Procedures I	3
Office Machines	1
Typewriting III or Secretarial Science Elective	3
Medical Terminology	3
Elective (Science)	<u>3-4</u>
	16-17

FOURTH SEMESTER

Course	Credit
Shorthand IV or Secretarial Science Elective	3
Medical Secretarial Procedures	3
Medical Dictation & Transcription	3
Speech	3
Elective (Liberal Arts)	<u>3</u>
	15

TECHNICAL OPTION

THIRD SEMESTER

Course	Credit
Shorthand III, IV or V	3
Technical Stenography	3
Secretarial Procedures I	3
Office Machines	1
Typewriting III or Elective	3
Elective (Science)	<u>3-4</u>
	16-17

FOURTH SEMESTER

Course	Credit
Technical Dictation & Transcription	3
Technical Typewriting	3
Speech	3
Elective (Liberal Arts)	3
Elective	<u>3</u>
	15

THE ASSOCIATE IN SCIENCE DEGREE**NURSING HOME AND SMALL HOSPITAL ADMINISTRATION**

The Nursing Home and Small Hospital Administration Program prepares the student with skills in the various aspects of institutional management including finance, facilities and equipment, planning and construction, services, health standards and record keeping. The development of a comprehensive view of health care, and an understanding of the role of the nursing home in society, is emphasized. The course includes an internship period in an approved institution.

FIRST SEMESTER

Course	Credit
English Composition I	3
Introductory Accounting I	3
Principles of Economics	3
Introduction to Psychology	3
Principles of Nursing Home Administration I	3
	<u>15</u>

SECOND SEMESTER

Course	Credit
English Composition II	3
Introductory Accounting II	3
Speech	3
Food Services and Nutrition	3
Mathematics of Finance	3
	<u>15</u>

THIRD SEMESTER

Course	Credit
Nursing Home Plant Planning	3
Business Law I	3
Office Machines	1
Gerontology	3
Biology	4
	<u>16</u>

FOURTH SEMESTER

Course	Credit
Personnel Management	3
Medico-Legal Standards	3
Internship (Administration)	4
Principles of Nursing Home Finance	3
	<u>16</u>

THE ASSOCIATE IN SCIENCE DEGREE CHILD CARE

The Child Care Program instructs students in the principles and theory of child development, and in the principles, theory and practices of early childhood education, to train them as teaching and child care assistants for pre-school children interacting in a group situation. The curriculum includes an integrated practical experience component which allows students to immediately apply new skills and knowledge in real situations.

FIRST SEMESTER

Course	Credit
English Composition I	3
Introduction to Psychology	3
Integrated Science I	4
Introduction to Child Care Techniques	3
*Children's Literature	3
Observation and Recording of Child Behavior	1
	<u>17</u>

SECOND SEMESTER

Course	Credit
English Composition II	3
Child Psychology	3
Integrated Science II	4
Problems in Early Childhood Education	3
Introduction to Creative Experience	3
Laboratory in Program Design	2
	<u>18</u>

*This course does not satisfy the literature requirements of the Liberal Arts or General Liberal Arts programs.

THIRD SEMESTER

Course	Credit
Principles of Sociology	3
Speech	3
Emotional Disturbances of Childhood	3
*Laboratory in Child Care Education I	3
Physical Education and Recreation Activities	1
Media Workshop	1
Elective	3
	<u>17</u>

FOURTH SEMESTER

Course	Credit
Seminar in the Philosophy of Child Care	3
Developmental Pre-school Mathematics	3
*Laboratory in Child Care Education II	6
**Elective	3
	<u>15</u>

*Clinical Experience

*It is suggested that one of the following courses be elected, depending upon the student's area of special interest:

Social Psychology
Abnormal Psychology
Contemporary Social Problems

THE ASSOCIATE IN SCIENCE DEGREE NURSING

The Nursing Program is designed to provide sound training in nursing theory and nursing skills. Clinical instruction, and experience in affiliated hospitals, follows the highest national and state standards for excellence. Liberal arts courses are included to develop the best potential of the student. Graduates are prepared to write the Massachusetts State Licensing Examinations for qualification as registered nurses. Both male and female applicants, married or single, are considered for this program. Satisfactory performance must be required in all nursing and laboratory courses.

FIRST SEMESTER

Course	Credit
Nursing I	8
Anatomy & Physiology I	4
English Composition I	3
Introduction to Psychology	<u>3</u>
	18

SECOND SEMESTER

Course	Credit
Nursing II	8
Anatomy & Physiology II	4
English Composition II	3
Marriage & the Family	<u>3</u>
	18

THIRD SEMESTER

Course	Credit
Nursing III	8
Principles of Sociology	3
Speech	3
Microbiology	<u>4</u>
	18

FOURTH SEMESTER

Course	Credit
Nursing IV	10
Seminar on Nursing	3
Elective (Social Science)	<u>3</u>
	16

PREREQUISITES FOR ADMISSION

Four years of high school English
Two years of science (one must be a laboratory course in chemistry)
Two years of mathematics (at least one year of algebra)
Two years of social science

THE ASSOCIATE IN SCIENCE DEGREE MEDICAL RECORD TECHNOLOGY

The Medical Record Technology Program provides the student with the skills and techniques required to enter the administrative areas of the health professions. The curriculum provides a wide opportunity for intellectual development through electives. The technical courses emphasize the preparation, maintenance and analysis of medical reports, records and studies. Graduates are prepared to write an examination for national accreditation. Students who wish to continue their education in a four-year institution should select electives which fill the transfer requirements of the institution of their choice.

FIRST SEMESTER

Course	Credit
English Composition I	3
Anatomy & Physiology I	4
Medical Terminology	3
Medical Record Science I	3
*Typing I or Elective	<u>3</u>
	16

SECOND SEMESTER

Course	Credit
English Composition II	3
Anatomy & Physiology II	4
Medical Record Science II	3
Directed Practice I	2
***Group B Elective	<u>3</u>
	15

THIRD SEMESTER

Course	Credit
Medical Record Science III	3
Directed Practice II	4
Social Science	3
Elective (Liberal Arts)	3
*Group A Elective	<u>3</u>
	16

FOURTH SEMESTER

Course	Credit
Medical Record Seminar	1
Directed Practice III	4
†Group B Elective	3
**Group A. Elective	3
Elective (Liberal Arts)	3
Elective	<u>3</u>
	17

*Students able to type 45 WPM will be exempt from Typing I.

****Group A Electives:** Select one course from each group

Personnel Management	Basic Computing Machines
Time and Motion Study	Introduction to Data Processing

†**Group B Electives:** Select one of the two-course groups (Take introductory courses during the first year)

Introduction to Psychology	Principles of Sociology
Social Psychology	Contemporary Social Problems

THE ASSOCIATE IN SCIENCE DEGREE INHALATION THERAPY TECHNOLOGY

The Inhalation Therapy Technology Program provides theoretical background and practical skills in the application, under medical supervision, of inhalation therapy to patients; and in the use and maintenance of inhalation therapy equipment. Clinical experience is provided by the use of the equipment and organizational facilities of affiliated hospitals. Students who successfully complete this program are prepared to sit for the examination administered by the American Association for Inhalation Therapy for registration as Registered Inhalation Therapists.

FIRST SEMESTER

Course	Credit
English Composition I	3
Finite Mathematics I	3
Integrated Science I	4
Introduction to Psychology	3
Respiratory Therapy I	<u>3</u>
	16

SECOND SEMESTER

Course	Credit
English Composition II	3
Elective (Liberal Arts)	3
Integrated Science II	4
Elective (Liberal Arts)	3
Respiratory Therapy II	<u>3</u>
	16

SUMMER SESSION

Required ten-week term of clinical experience under medical supervision, as employee of affiliate hospital.

THIRD SEMESTER

Course	Credit
Respiratory Therapy III	4
Respiratory Physiology	3
pH and Blood Gas Analysis	3
Seminar I	3
Elective (Liberal Arts)	<u>3</u>
	16

FOURTH SEMESTER

Course	Credit
Respiratory Therapy IV	4
Clinical Spirometry	3
Respiratory Intensive Care	4
Seminar II	3
Elective (Liberal Arts)	<u>3</u>
	17

CERTIFICATE PROGRAM INHALATION THERAPY TECHNOLOGY

The Inhalation Therapy Technology Certificate Program is a one-year program which prepares students for an examination which is administered by the American Registry of Inhalation Therapists and receipt of a Certificate of Competence for proficiency in performing lower level technical functions within the allied medical specialty, inhalation therapy. The curriculum of this program concentrates on the technical skills necessary to assist inhalation therapists, doctors and nurses in the administration of special services related to respiratory treatment.

FIRST SEMESTER

Course	Credit
English Composition I	3
Integrated Science I	4
Respiratory Therapy I	3
Respiratory Therapy II	3
Respiratory Physiology	3
	<u>16</u>

SECOND SEMESTER

Course	Credit
Integrated Science II	4
Respiratory Therapy III	3
Respiratory Therapy IV	3
Seminar for Technicians	3
Elective	3
	<u>16</u>

THE ASSOCIATE IN SCIENCE DEGREE

RADIOLOGIC TECHNOLOGY

The Radiologic Technology Program prepares students with the theoretical knowledge and practical skills necessary to take the National Board Examination sponsored by the American Registry of Radiological Technologists to qualify for employment in the allied medical specialty, x-ray or radiologic technology. The curriculum combines classroom courses with clinical experience in selected and approved area hospitals.

FIRST SEMESTER

Course	Credit
English Composition I	3
Anatomy & Physiology I	4
Radiologic Science I	3
Finite Mathematics I	3
Radiologic Orientation	4
	<u>17</u>

SECOND SEMESTER

Course	Credit
English Composition II	3
Anatomy & Physiology II	4
Radiologic Science II	3
Finite Mathematics II	3
Radiologic Orientation II	4
	<u>17</u>

SUMMER PRACTICUM

Ten week summer practicum in approved area hospital - 2 credits

THIRD SEMESTER

Course	Credit
Introduction to Psychology	3
*Elective	3
Elective (Liberal Arts)	3
Radiologic Technology I	3
Principles of Radiologic Technology I	4
	<u>16</u>

FOURTH SEMESTER

Course	Credit
Elective (Social Science)	3
*Elective	3
Elective	3
Radiologic Technology II	3
Principles of Radiologic Technology II	4
	<u>16</u>

*Students who have sufficient academic proficiency are advised to consider some of the four-credit courses as electives.

THE ASSOCIATE IN SCIENCE DEGREE BANKING

The Banking Program is an additional program within the Department of Business offered through the Division of Continuing Education. It has been developed in conjunction with the Merrimack Valley Chapter, American Institute of Banking through its Educational Committee. The program is primarily for those presently employed in banking. The courses parallel courses offered by the American Institute of Banking. A student is able to work towards American Institute of Banking certification while completing requirements for the associate degree. The program provides the student with a broad academic background, business management training and the fundamentals of banking management.

FIRST SEMESTER

Course	Credit
English Composition I	3
Introductory Accounting I	3
Mathematics of Finance	3
Survey of Economics	3
Principles of Bank Operations	
or	3
Savings & Time Deposit	
Banking	
	<u>15</u>

SECOND SEMESTER

Course	Credit
English Composition II	3
Introduction to Psychology	
or	3
Principles of Sociology	
Speech	3
Money and Banking	3
Introductory Accounting II	<u>3</u>
	15

THIRD SEMESTER

Course	Credit
Business Law I	3
Elective (Liberal Arts)	3
Personnel Management	3
*Banking Elective	3
*Banking Elective	<u>3</u>
	15

FOURTH SEMESTER

Course	Credit
Business Law II	3
Elective (Liberal Arts)	3
Elective	3
Bank Management	3
**Bank Elective	<u>3</u>
	15

* Third semester banking
 electives

**Fourth semester banking
 electives

Credit Administration
Home Mortgage Lending
Installment Credit
Trust Department Services
Analyzing Financial Statements
Bank Letters and Reports
Bank Public Relations & Marketing
Fundamentals of Data Processing

(Any third semester banking elective not previously chosen may be selected.)

The Division of Continuing Education

THE ASSOCIATE IN SCIENCE DEGREE LAW ENFORCEMENT

The Law Enforcement Program is designed to provide specialized training for police personnel, and others, interested in preparation for careers in municipal, state, federal and private law enforcement and investigation work. The curriculum reflects the values, goals and problems of the total criminal justice system with emphasis on technical and educational aspects, rather than training aspects. Students, upon successful completion of the program, may transfer to a four-year institution offering a baccalaureate degree in Law Enforcement. All law enforcement courses in this program are offered in the Division of Continuing Education.

FIRST SEMESTER

Course	Credit
English Composition I	3
Introduction to Psychology	
or	3
Principles of Sociology	
Criminal Law	3
Introduction to Criminal	
Justice	3
State & Local	
Government	<u>3</u>
	15

SECOND SEMESTER

Course	Credit
English Composition II	3
Principles of Sociology	
or	3
Introduction to Psychology	
Law Enforcement Planning	
& Management	3
Introduction to	
Criminology	3
*Elective	<u>3</u>
	15

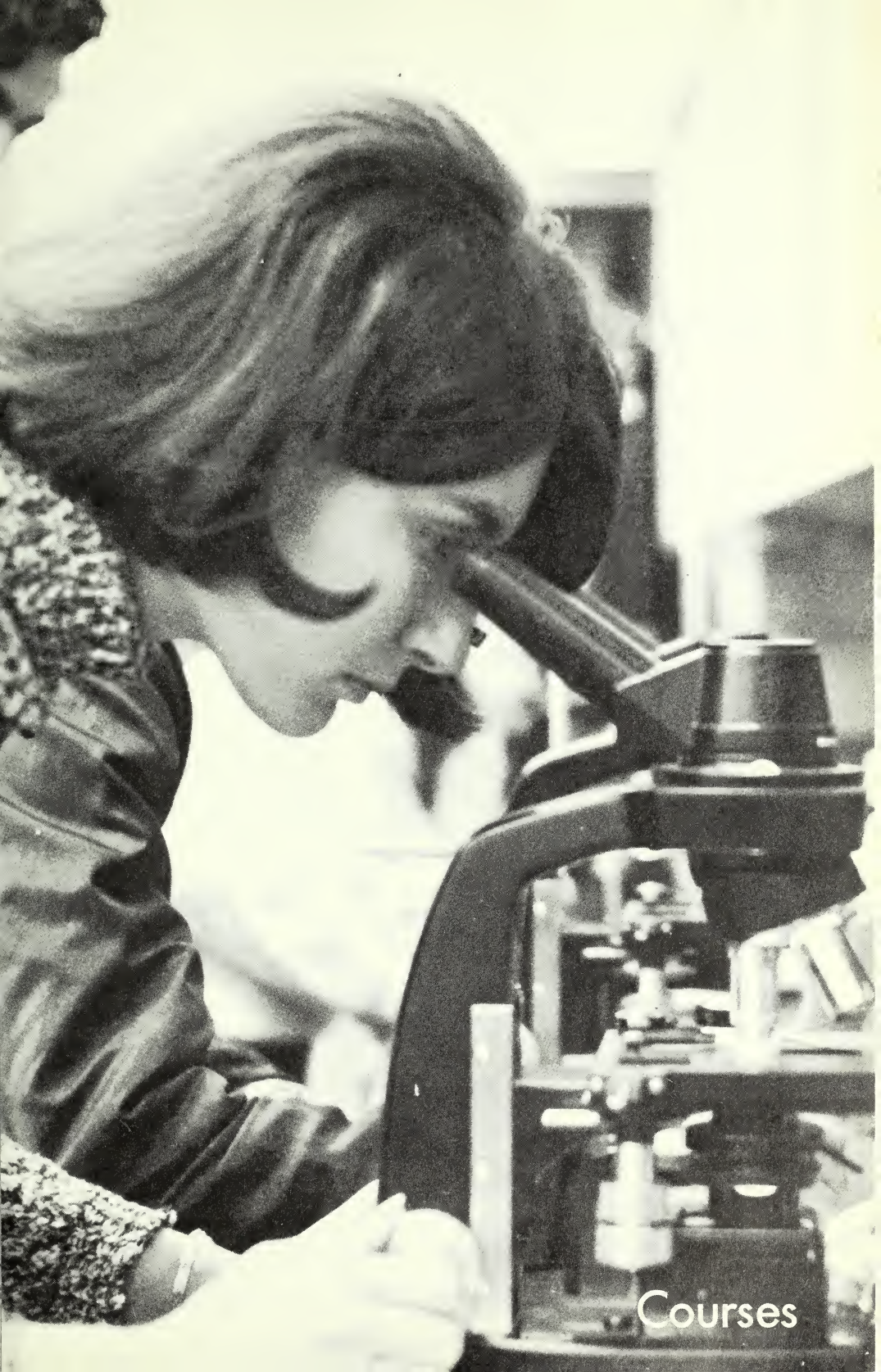
THIRD SEMESTER

Course	Credit
Speech	3
Finite Mathematics I	3
Police Operations	3
Criminal Investigation	3
*Elective	<u>3</u>
	15

FOURTH SEMESTER

Course	Credit
Man & His Environment	3
Civil Rights & Liberties	
or	3
Federal Government	
Criminal Procedures	3
Introduction to	
Criminalistics	3
*Elective	<u>3</u>
	15

*Students planning to transfer to a college offering a baccalaureate degree in Law Enforcement should consult course requirements of that institution before selecting an elective.



Courses

Prerequisites

Certain courses are at a level of difficulty which requires from the student specific background preparation — or prerequisite courses — before he can perform successfully at the college level. Students will not be permitted to take any course without fulfilling the prerequisites required for that course, except with the permission of the course instructor and the appropriate division chairman.

Electives

An elective is any course which is not required in a specific curriculum.

Every program offered in the College includes electives. Students should elect courses which are relevant to their personal interests, to their program considered as a whole, to the requirements of colleges to which they may wish to transfer, and to their development as individuals with broad and varied cultural backgrounds.

Assistance in choosing electives is available from the faculty and counseling staff. Courses which will be offered as electives during a specific semester will be announced at registration for that semester.

Electives are currently offered at Northern Essex in the areas of social science, the humanities, mathematics and the natural sciences.

The Humanities

Languages	Speech
Art	Creative Writing
Music	Theatre
History	Philosophy
Literature	Poetry

Mathematics

Finite Mathematics	Calculus
Trigonometry	Geometry

The Natural Sciences

Botany	Anatomy & Physiology
Chemistry	Physics
Genetics	Zoology

Courses

AC6601 Introductory Accounting I

A one-semester course; three credit hours. The basic concepts of accounting and uses of accounting data. Topics include the theory of debit and credit, use of journals and ledgers, analysis and recording of financial transactions, the accounting cycle, deferrals, accruals, inventories, fixed assets, voucher system and payroll. Four class hours per week.

AC6602 Introductory Accounting II

A one-semester course; three credit hours. A continuation of AC6601. Emphasis on accounting for partnerships, corporations, basic cost accounting and cost relationships, and special reports and statements. Four class hours per week.

Prerequisite: AC6601

AC6651 Intermediate Accounting I

A one-semester course; three credit hours. The detailed study of accounting theory and practice as it pertains to the accounting process, cash, receivables, inventories and current liabilities. Three class hours per week.

Prerequisite: AC6602

AC6652 Intermediate Accounting II

A one-semester course; three credit hours. A continuation of AC6651 with emphasis on non-current assets and liabilities, stockholders equity, and various statements. Three class hours per week.

Prerequisite: AC6651

AC6661 Managerial Accounting

A one-semester course; three credit hours. A study of the analysis of accounting data, rather than the collecting and recording function. The use of accounting as a basis for managerial supervision and planning. Three class hours per week.

Prerequisite: AC6602

AC6671 Cost Accounting

A one-semester course; three credit hours. An intensive study of cost methods; costing for materials, labor and factory overhead. Job-order process, direct costing and the use of standards. Three class hours per week.

Prerequisite: AC6602

AC6682 Tax Accounting

A one-semester course; three credit hours. An introduction to the principles of federal taxation with emphasis on history of income taxation, gross income, deductions, exemptions, accounting records, preparation and filing of tax returns. Three class hours per week.

Prerequisite: AC6602

AC6691 Elements of Accounting I

A one-semester course; three credit hours. Study of current accounting terminology. Introduction to the basic principles and practices of accounting. Topics include: double-entry system and the accounting equation, journals, ledgers, trial balances, work sheets, financial statements, cash and banking procedures, and payroll records. Four class hours per week.

BI5511 Introductory Biology – Botany

A one-semester course; four credit hours. An introductory biology course based on the study of plants. The lectures include a gross and microscopic survey of plant anatomy from algae to the higher vascular plants noting the evolutionary trends, their economic relationship with man, and the fundamentals of physiology and morphology of the higher vascular plants. Three one-hour lectures and one two-hour laboratory period per week.

Prerequisite: A high school biology course and/or permission of the instructor.

BI5513 Introductory Biology – Invertebrate Zoology

A one-semester course; four credit hours. An introductory biology course oriented to invertebrate animals. The relation of the invertebrate animals to their environment and to man as indicated by their structure, physiology, natural history and evolution. Field trips and laboratory work emphasize identification and structural forms of the nearby lakes and ocean. Three one-hour lectures and one two-hour laboratory period per week.

Prerequisite: A high school biology course and/or permission of the instructor.

BI5515 Introductory Biology – Vertebrate Zoology

A one-semester course; four credit hours. An introductory biology course oriented to vertebrate animals. A study of the vertebrate animals in relation to their structure,

adaptations, evolution, and natural history. Their relationships to the lower animals and to man. Three one-hour lectures and one two-hour laboratory period per week.

Prerequisite: A high school biology course and/or permission of the instructor.

BI5519 Anatomy and Physiology I

A one-semester course; four credit hours. Human anatomical structures and physiological systems will be studied. Emphasis will be placed on the interrelationships between the systems. Related topics such as physical abnormalities and diseases of the systems will be integrated where possible. Laboratory work will include experiments, dissection, microscope work and the study of charts and models. Three one-hour lectures and one two-hour laboratory period per week.

BI5520 Anatomy and Physiology II

A one-semester course; four credit hours. A continuation of BI5519 integrating genetics and embryology to provide a basic understanding of the principles of heredity, and the processes of foetal growth and development. Three one-hour lectures and one two-hour laboratory period per week.

BI5551 Genetics

A one-semester course; four credit hours. The lectures present the fundamental Mendelian principles and the exploration of more recent discoveries, including DNA molecule and the operon theory of micro-organisms, higher plants and animals. New concepts of gene mutation and gene action are considered. Practical exercises are used to illustrate the principles. Three one-hour lectures and one two-hour laboratory period per week.

Prerequisite: One year of introductory biology subjects at the college level and permission of the instructor.

BI5553 Microbiology

A one-semester course; four credit hours. The biology of bacteria and micro-organisms is studied. Laboratory work emphasizes the sterile technique. Immunology is discussed. Three one-hour lectures and one three-hour laboratory period per week.

Prerequisite: One year of introductory biology subjects at the college level and permission of the instructor.

BI5611 Biology (Nursing Home/Small Hospital Administration)

A one-semester course; four credit hours. Communicable diseases and general principles of physiology, genetics, and evolution are studied. The relationships of plants and animals to man are emphasized. Three one-hour lectures and one two-hour laboratory period per week.

BI5999 Special Topics in Biology

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in the discipline. Syllabus to be approved by department

chairman and division chairman prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project, and permission of the instructor.

***BK6601 Principles of Bank Operations**

A one-semester course; three credit hours. Survey of banking's relationship to the total economy and the functional relationships of departments within the bank. Develops the framework for more specialized study of the banking institution. Three class hours per week.

BK6602 Savings and Time Deposit Banking

A one-semester course; three credit hours. A fundamental study of the historical development and economic function of savings institutions and the savings process. Three class hours per week.

***BK6611 Money and Banking**

A one-semester course; three credit hours. The practical aspects of money and banking; emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. Three class hours per week.

***BK6612 Bank Management**

A one-semester course; three credit hours. A study of trends in the philosophy and practice of management. Some use of case study. Three class hours per week.

***BK6621 Credit Administration**

A one-semester course; three credit hours. Course concerns itself with a statement and a discussion of factors influencing and determining loan policy; methods of credit investigation and analysis, credit techniques, specific credit problems, and regular as well as unusual types of loans. Three class hours per week.

***BK6622 Home Mortgage Lending**

A one-semester course; three credit hours. Examination of mortgage credit in the United States and the structure of the mortgage market. An analysis of the management considerations in mortgage lending and portfolio management. Three class hours per week.

*Courses designated BK (Banking) are offered through the Division of Continuing Education. They are offered primarily for members of the American Institute of Banking, but may be elected by other students upon prior approval.

BK6623 Installment Credit

A one-semester course; three credit hours. Study of the installment credit function; credit information, lending, collections and other procedures as well as inventory financing, special loan programs, business development and advertising, and the public relations aspect of installment lending. Three class hours per week.

BK6624 Trust Department Services

A one-semester course; three credit hours. Study of trust services, responsibilities of executors and administrators, analysis of the structure of trusts, alternative forms and the general and investment responsibilities of trustees. Three class hours per week.

BK6651 Analyzing Financial Statements

A one-semester course; three credit hours. Basic considerations in financial statement analysis, basic financial ratios, analysis of working capital, and other items. Three class hours per week.

***BK6652 Bank Letters and Reports**

A one-semester course; three credit hours. A review of the forms of letter and report writing as they apply to public relations as well as emphasize fundamental principles underlying modern correspondence. Three class hours per week.

***BK6653 Bank Public Relations and Marketing**

A one-semester course; three credit hours. A study of the public relations and marketing aspects of banking as they would apply to relations with customers, the community, and others. Three class hours per week.

BK6654 Fundamentals of Bank Data Processing

A one-semester course; three credit hours. A non-technical study of electronic data processing as applied to banks. A survey course. Three class hours per week.

CC2112 Problems in Early Childhood Education

A one-semester course; three credit hours. A sociological-psychological study of factors leading to educational success in representative compensatory programs for the young child. This course centers around the role of the family and cultural background as they relate to the development of school skills. Three class hours per week.

*Courses designated BK (Banking) are offered through the Division of Continuing Education. They are offered primarily for members of the American Institute of Banking, but may be elected by other students upon prior approval.

CC2201 Introduction to Child Care Technique

A one-semester course; three credit hours. This course provides the student with an understanding of the Child Care Worker's day, raises particular problems associated with organizing a group of youngsters, and presents a clear differentiation between the management and understanding of behavior. Three class hours per week.

CC2264 Seminar in the Philosophy of Child Care

A one-semester course; three credit hours. The student studies varied models of child care programs and the theories which they illustrate. The second half of the course involves clinical experiences in which the student explores in depth a model of a child care program located in the Merrimack Valley, studies the program in operation, and writes a research paper based upon his findings. Three class hours per week.

CC2311 Observation and Recording of Child Behavior

A one-semester course; one credit hour. A preliminary study of child behavior in varied institutional settings. Defined areas of child behavior will be observed and recorded. These observations will be discussed every other week at seminars. Two laboratory hours per week.

CC2312 Laboratory Experience in Program Development

A one-semester course; two credit hours. Skills and concepts of learning acquired in Children's Literature and Introduction to the Creative Experience will be applied in selected centers for children. The student will play an active role in setting up projects, and working with the young child in the areas of art, music, crafts and literature. Four class hours and four laboratory hours per week.

Prerequisite: EN8401 and present enrollment in FA7012

CC2353 Laboratory in Child Care Education I

A one-semester course; three credit hours. The student will be actively involved in the varied activities which are part of all child education programs. Not only will the student work with arts, crafts, music and literature; he will also aid the supervising personnel in leading recreational activities, will work with the individual children in defined problem areas and will record his experiences for seminars held every other week. Nine hours per week clinical experience.

Prerequisite: CC2201, CC2371 and present enrollment in CC2112

CC2354 Laboratory in Child Care Education II

A one-semester course; six credit hours. The student will have greater responsibilities in his relationship with programs for the young child. Sixteen hours of practical experience each week will be spent within a defined institutional center. At the completion of the semester, the student should be competent to work in all areas normally associated with the para-professional in child care programs. Eighteen hours per week clinical experience.

Prerequisite: CC2353

CC2371 Emotional Disturbances of Childhood

A one-semester course; three credit hours. An application of pertinent data in etiology, nosology and remediation to the disturbed behavior of children in the child care situation. Generally, the course will focus attention upon individualizing children and their problems so that the child care worker will learn to individualize his approach, learning both the limits and benefits of the group setting. Three class hours per week.

CC2480 Media Workshop

A one-semester course; one credit hour. An introduction to the use of the media in child care programs. Films, filmstrips, tapes, records, and television will be explored as they relate to education and entertainment in child care situations. Each student will be required to design one activity in which the media will be used as the basis of a learning experience. In addition, the student will become familiar with the operation of film and slide projectors, tape recorders, and closed-circuit television. One class hour per week.

CE6601 Surveying I

A one-semester course; four credit hours. The course is designed to give the student basic proficiency in use and adjustment of surveying instruments. Theory and practice in distance and elevation measurements are provided. Three class hours and three laboratory hours per week.

Prerequisite: MA5621 (CE6601 may be taken concurrently with MA5621)

CE6602 Surveying II

A one-semester course; four credit hours. The course is designed to give the student advanced proficiency in measurements and surveys. Topics covered are angle measurements, curve laying, errors, detail, cross sections, stadia measurements, topographical surveys, note taking, note reduction, plotting from notes, map making and common computations. Three class hours and three laboratory hours per week.

Prerequisite: CE6601

CE6651 Mechanics for Civil Technology

A one-semester course; three credit hours. Course is designed to give the student a knowledge of statics and dynamics as applied to civil technology problems. Analysis of forces acting on bodies both at rest and in motion are studied in detail. Three class hours per week.

Prerequisite: PI5621 and PI5622

CE6612 Drawing for Civil Technology

A one-semester course; three credit hours. Course is designed to give the student a knowledge of statics and dynamics as applied to civil technology problems. Analysis

of forces acting on bodies both at rest and in motion are studied in detail. Three class hours per week.

Prerequisite: CE6601

CE6652 Building Materials

A one-semester course; four credit hours. Course is designed to give the student knowledge of various building materials. The strength, economy and construction methods of wood, steel, concrete (reinforced and not reinforced), penetrated stone, asphalt, masonry, etc. are studied. A laboratory gives practice testing various materials according to accepted standards. Three class hours and three laboratory hours per week.

CE6661 Highway Engineering I

A one-semester course; four credit hours. The course is designed to give the student understanding and practice in solving the problems of modern highways from the basic traffic studies which develop need, through the problems of location, economics, financing, layout, surveys for plans, and plan preparation. Three class hours and three laboratory hours per week.

Prerequisite: CE6601 and CE6602

CE6662 Highway Engineering II

A one-semester course; four credit hours. The course is designed to give the student advanced theory and practice in the design of roadways, drainage, quantity estimation, preparation of contract documents, execution of contract, construction layout and control, contract payment quantities, inspection of materials and workmanship and acceptance of the finished highway. Three class hours and three laboratory hours per week.

Prerequisite: CE6661

CE6671 Sanitation

A one-semester course; three credit hours. The course is designed to give the student a knowledge of the problems and solutions of water supply and sewerage. The course considers the problems of water from rainfall, through storage, storm drainage, hydraulics, distribution and treatment of drainage water, collection, disposal and treatment of sanitary sewage. Water and storm drainage and sanitary sewerage systems design is stressed. Three class hours per week.

CE6672 Soil Mechanics

A one-semester course; four credit hours. The course is designed to give the student a basic knowledge of the problems of soils. Problems of sub bases, loadings, sheeting, settlement, slope stability, tests of soils and gravel are considered and solved. Field trips are taken to inspect various practical situations. Three class hours per week.

CH5501-CH5502 General Chemistry I and II

A two-semester course; four credit hours per semester. First semester deals with physical chemistry; second semester with inorganic chemistry and an introduction to organic chemistry. The study of the principles of chemistry by a reliance on the measurement and mathematical treatment of chemical units. The application of these units to the interaction of chemical substances under mechanical, thermal and electrical changes as exemplified by considering the combinations by weight, the gas laws, electro-chemistry and chemical equilibrium in gaseous and solution reactions. Three class hours and one three-hour laboratory period per week.

CH5503 Introductory Chemistry I

A one-semester course; four credit hours. The course covers the basic understanding of atomic structure of the elements, periodic table and radioactivity. The study of solid, liquid and gaseous states of matter is undertaken. Three one-hour lectures and one three-hour laboratory period per week.

CH5504 Introductory Chemistry II

A one-semester course; four credit hours. The course covers the study of solutions, acids, bases and neutralization. The application of physical chemical theory to inorganic chemistry. A brief review of organic chemistry is undertaken with special emphasis on how this aspect of chemistry relates to biological systems. Three one-hour lectures and one three-hour laboratory period per week.

CH5999 Special Topics in Chemistry

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in the discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project, and permission of the instructor.

CT6601 Fundamentals of Digital Logic

A one-semester course; three credit hours. The evolution of data processing, the relationship to job organization, the development of a data processing system, in-pu and out-pu media, internal processing, detailed coverage of storage media and fundamental programming techniques. Three one-hour lectures per week.

CT6611 Business Programming I

A one-semester course; four credit hours. Unit record equipment is studied both as an independent system and an off-line aid to the use of the computer. Punch card system, the unit record, machine functions, card punch interpreter, sorter, reproducing punch and collator. Three one-hour lectures and one two-hour laboratory period per week.

CT6622 Scientific Programming

A one-semester course; four credit hours. A comprehensive study of FORTRAN and/or equivalent programming language with related mathematics. Three one-hour lectures and one two-hour laboratory period per week.

CT6631 Introduction to Data Processing

A one-semester course; three credit hours. Data processing from manual systems to computers, developments in the field, the equipment involved, how the equipment is used, how it works, and the applications of data processing systems. Develops understandings preparing students to cope with the computer phenomenon as it relates to their field, or to further develop competency in machine operation or computer programming. Three class hours per week.

CT6651 Assembly Language Programming

A one-semester course; four credit hours. A thorough study of the absolute machine language and the assembler for the computer on campus. Three one-hour lectures and one two-hour laboratory period per week.

CT6652 Business Programming II

A one-semester course; four credit hours. A detailed study of COBOL and/or equivalent programming language with applications. Three one-hour lectures and one two-hour laboratory period per week.

CT6676 Systems Development and Design

A one-semester course; four credit hours. Effective use of data processing equipment in meeting the needs of business. The approach, requirements of the systems, developing the solution, data and system control, evaluation and finalizing of the system, and system implementation. Three one-hour lectures and one two-hour laboratory period per week.

CT6678 Advanced Programming

A one-semester course; four credit hours. Basic concepts of programming systems, assemblers and compilers, report generators, utility programs, data scheduling systems, sort-merges, monitors and high level languages. Three one-hour lectures and one three-hour laboratory period per week.

CT6682 Computer Applications to Civil Technology Problems

A one-semester course; four credit hours. The course is designed to give the student a knowledge of the computer solutions to the great quantities of calculations that are necessary in practice. Basic computer operation and programming techniques are covered with emphasis on FORTRAN and COGO languages. Three class hours and three laboratory hours per week.

Prerequisite: MA5621 and MA5622

EC3311 Principles of Economics I

A one-semester course; three credit hours. Introduction to macro-economic analysis and policy. An examination of the foundation and nature of economic principles as they apply to national output, money and banking, and monetary and fiscal policy. Course also focuses upon the problems of employment, inflation, economic growth as illuminated by modern national income analysis. Three class hours per week.

EC3312 Principles of Economics II

A one-semester course; three credit hours. Introduction to micro-economics. This semester centers upon the functioning of individual markets and their effectiveness for resource allocation. Includes price and production theory, the distribution of income, comparative economic systems, international trade, and the theory of household behavior. Three class hours per week.

Prerequisite: EC3311

EC3652 Survey of Economics

A one-semester course; three credit hours. A non-technical survey of current economic problems. Background of economic concepts and terminology. Some focus on comparative economic systems. Not recommended for transfer students. Three class hours per week.

EN0101 Journalism I

A one-semester course; three credit hours. To be offered both semesters. The course will analyze and compare current newspapers and magazines, and will emphasize newswriting, reporting, copy editing, and layout. Knowledge of typing is recommended. Three class hours per week.

EN0121 Creative Writing

A one-semester course; three credit hours. A seminar in writing beyond the freshman level, especially recommended for English majors, prospective teachers, and students who have exempted freshman English. The art of various types of imaginative literature is examined as a guide to the development of individual style, with emphasis on writing practice and group evaluation. Three class hours per week.

Prerequisite: EN4401 and EN4402 or permission of the instructor.

***EN0401 Reading Strategies**

A one-semester course; three credit hours. Designed to expose students to effective reading and study techniques. Emphasis is placed on understanding the printed word in various forms — phrases, sentences, paragraphs, and whole selections. Some of the areas explored include concepts such as main ideas, significant details, vocabulary expansion and idea relationships like cause and effect, comparison-contrast, explanation, etc. The application of processes such as association, visualization, concentration and repetition is stressed to facilitate interpretation and memory of passages. Critical reading skills and organized approaches to study are also considered. Diagnostic testing is done at the beginning and end of the course. Three class hours per week.

*Course offered in the Discovery Program only.

EN1120 Introduction to the Theatre

A one-semester course; three credit hours. An introductory course which will survey the development and techniques of modern drama. Instruction will be given in acting, directing and the technical aspects of play production. Three class hours per week.

EN2455 Film Study

A one-semester course; three credit hours. This course will attempt to foster critical taste in film. Students will explore the role of film in contemporary society by viewing and discussing: documentaries, experimental films, impressionistic films, animated films, and commercial films. Discussion and analysis will acquaint the student with the interrelationship of film technique and content. Three class hours per week.

EN3011 Reading Improvement

A one-semester course; no credit hours. This course is designed to aid students in the overall improvement of their verbal skills. Special attention will be paid to increasing skill in speed and comprehension of reading. The course is structured to provide a flexible and individualized approach to reading skill improvement, vocabulary building and critical reading. Three class hours per week.

*** EN4311 Communications I**

A one-semester course; three credit hours. A writing and reading course which is closely related to Humanities I. The origin of language, social aspects of language, presymbolic and symbolic language, and social control through language will be studied as they relate to man's biological and social nature. Writing and reading assignments will be interrelated with Humanities I. Three class hours per week.

EN4401 – EN4402 English Composition I and II

A two-semester course; three credit hours per semester. Designed to develop lucid, effective written expression. Grammar, syntax and punctuation are reviewed. Stressed are special techniques in expression and the development of logical thinking to enable the student to organize, outline and express his thoughts in written form at various levels. Required of all students. Three class hours per week.

EN4403 Advanced Composition

A one-semester course; three credit hours. A seminar in writing beyond the freshman level, designed for students seriously interested in writing. Types of non-fiction and fiction will be examined as guides in the development of writing style. Three class hours per week.

Prerequisite: EN4401 and EN4402 or permission of the instructor.

*Course offered in the Discovery Program only.

EN4676 Technical Writing

A one-semester course; three credit hours. Engineering and scientific report writing. General inductive exposition with emphasis upon research writing, industrial reports and graphic techniques. Three class hours per week.

Prerequisite: EN4401 and EN4402

EN8011 Speech

A one-semester course; three credit hours. Instruction and practice in skills essential to effective oral communication. The course includes organization, presentation and audience analysis as well as instruction in diction, volume and posture. Three class hours per week.

EN8012 Oral Interpretation

A one-semester course; three credit hours. Designed to present the various techniques in effective oral reading. Stress is placed on vocal flexibility, imagery, and emotional involvement. A wide range of dramatic literature will be used. Three class hours per week.

Prerequisite: EN8011 and permission of the instructor.

EN8013 Skill and Motivation Development

A one-semester course; no credit hours. A preliminary course, offered in the Summer Session, designed to increase an incoming student's awareness of the skills and mechanics necessary for the college experience. The course meets five days a week during Summer Session.

EN8401 Children's Literature

A one-semester course; three credit hours. An introductory course in children's books. Considers the history of children's literature and contemporary authors. Study of criteria of good literature, children's interests and developmental stages related to books, various genre of children's literature, children's book awards, illustrators and authors, and reference courses. Three class hours per week.

EN8851 – EN8852 Masters of American Literature

A two-semester course; three credit hours per semester. A study of the most important American novelists, poets and belle-lettrists from 1850 to the present. The emphasis is on the reading of works in their entirety, with depth of reading as well as catholicity being the objective. Typical authors who will form the subject of the course: Frost, Eliot, Hemingway, Faulkner, Salinger, Sinclair Lewis, Dreiser, Crane, Mark Twain, Melville, Hawthorne. Three class hours per week.

EN8853 – EN8854 Masters of British Literature

A two-semester course; three credit hours per semester. A study of the major works of selected English poets, dramatists and prose writers, with their historical and literary background, will be directed through lectures and prescribed reading, with special exercises in interpretation and criticism. Three class hours per week.

EN8861 — EN8862 Masters of Western Literature

A two-semester course; three credit hours per semester. An analysis of the literary masterpieces of the Western Tradition, emphasizing the literary philosophy and art of each author. Authors to be considered include Homer, Sophocles, Aeschylus, Plato, Dante, Strindberg, Ibsen, Cervantes, Chekhov, Gogol, Hawthorne, Melville. Variations in selections and authors occur from year to year. Three class hours per week.

EN8865 The Black Experience

A one-semester course; three credit hours. A study of American Black literature that will include a few representative novels and autobiographies and a sample of short stories and poems, mostly by Black writers, to better understand the relationship between literature and life. Three class hours per week.

EN8871 The English Novel

A one-semester course; three credit hours. Reading and discussion of great representative novels from 1740 to the present. Readings to be selected by the instructor. Three class hours per week.

EN8881 The American Novel

A one-semester course; three credit hours. Reading and discussion of significant novels of the nineteenth and twentieth centuries. Included among the authors considered are: Twain, Melville, Hawthorne, Crane, Dreiser, Henry James, Fitzgerald, Steinbeck, Anderson, Hemingway, Salinger, Bellow, Faulkner, Flannery O'Connor. Analysis of form and philosophy. Three class hours per week.

EN8891 Introduction to Poetry

A one-semester course; three credit hours. Designed to acquaint the student with the various forms and scope of poetry. Among the poets considered are Marvell, Shakespeare, Byron, Keats, Dickinson, Poe, Eliot, Pound, Plath, et al. This course is to be an overview of the concept of poetry. Three class hours per week.

EN8893 The Contemporary Novel

A one-semester course; three credit hours. Readings in British, American, French, German, Russian and South American fiction with special emphasis on philosophical and arch typical linkage. Three class hours per week.

EN8999 Special Topics in English

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

ES5501 Meteorology (Earth Science I)

A one-semester course; four credit hours. A basic study of the elements which constitute weather; temperature, pressure, winds, humidity and precipitation. Further study includes global patterns of weather conditions and the resultant climatic zones. Three one-hour lectures and one two-hour laboratory period per week.

ES5502 Physical Geology (Earth Science II)

A one-semester course; four credit hours. Introduction to landforms and the processes of their formation: erosion by wind, water, ice; beaches and wave action. Further study is accomplished through the use of topographic maps. Additional topics include descriptions of basic rocks and minerals, volcanism, mountain building and crustal movement. Three one-hour lectures and one two-hour laboratory period per week.

ES5999 Special Topics in Earth Science

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

ET601 Personal and Professional Development

A two-week course; no credit hours. An orientation course of seminar classes covering subjects such as personal and professional interrelationships, ethics, study techniques and membership in professional societies. The general purpose is to assist the student in adjusting to his role as student and in preparing himself for his future as a member of a technically oriented society. One class hour per day.

ET6111 Basic Concepts in Engineering

A two-week course; one credit hour. A review of arithmetic notation and the basic operations of addition, subtraction, multiplication, division, conversion of fractions to decimals, and percentages. Use of slide rule and graphical techniques for data presentation and elementary statistical concepts are studied. Ten class hours per week.

ET6601 Graphics

A one-semester course; two credit hours. This course stresses communication by graphical or pictorial means. Lettering, graphics sketching, orthographic projection, auxiliary views, dimensioning, descriptive geometry principles are topics covered. Neatness is emphasized throughout. One class hour and one two-hour laboratory period per week.

ET6611 D. C. Circuits

A one-semester course; four credit hours. Introduction to the analysis of electric circuits using D. C. sources. Applications of Kirchoff's Voltage and Current Laws, superposition, loop analysis, modal analysis and Thevenin's Theorem. Three class hours and one three-hour laboratory period per week.

ET6612 A. C. Circuits

A. one-semester course; four credit hours. Extension of the theorems developed in ET6611 as they apply to circuits excited by sinusoidal sources. Energy considerations, storage of energy, RMS determinations and transformers. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6611

ET6651 Engineering Mechanics I

A one-semester course; three credit hours. Development of fundamental concepts of mechanics such as vectors, forces and moments. Detailed treatment of free body diagrams and their application to force systems. Laws of static equilibrium, friction forces, first and second moments, and problems involving various structures and machine parts. Three class hours per week.

ET6652 Engineering Mechanics II

A one-semester course; three credit hours. Basic laws of kinematics of particles and rigid bodies involving linear, angular, relative and absolute motion. Newton's Laws and their application to the kinematics of rigid bodies in translation, rotation and plane motion; and the principles of work, kinetic energy, impulse and momentum. Three class hours per week.

Prerequisite: ET6651

ET6653 Advanced Circuits

A one-semester course; four credit hours. Study of the behavior of electric circuits excited by non-linear sources. Fourier series, pulse circuits, and non-linear elements. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6612

ET6655 Electrical Measurements

A one-semester course; four credit hours. Study of the problems in precise measurements of the fundamental parameters of voltage, current, velocity, acceleration, displacement, time and events per unity time. Emphasis will be on usage and limitations of current equipment. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6612

ET6661 Networks I

A one-semester course; four credit hours. Introduction to general network solutions employing mathematical models and topology. Emphasis on steady state network solutions using Kirchoff's Laws, Thevenin's Theorem, superposition theorem, loop and modal analysis. Three class hours and one three-hour laboratory period per week.

ET6662 Networks II

A one-semester course; four credit hours. Study of electrical networks under transient conditions. Use of singularity functions, pole zero plots and Fourier Series solutions are included. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6661

ET6682 Applied Industrial Electronics

A one-semester course; four credit hours. Introduction to thyatron speed control devices, power rectification, induction heaters, synchro systems, servo motors, switching circuits, programmed machine control and other industrial devices. Three class hours and one three-hour laboratory period per week.

Prerequisite: ET6653 and ET6687

ET6687 Electronics I

A one-semester course; five credit hours. Electron emission, electron ballistics, characteristics of vacuum tubes, application of network theory, electronic circuits, rectifiers, single stage amplifiers, R-C coupled and tuned amplifiers, and push-pull operation. Four class hours and one three-hour laboratory period per week.

Prerequisite: ET6662 and MA5508

ET6688 Electronics II

A one-semester course; five credit hours. Continuation of ET6687. Material covers feedback amplifiers, gas-filled tubes, oscillators, modulation and demodulation. Introduction to transistors and their associated circuitry is included. Four class hours and one three-hour laboratory period per week.

Prerequisite: ET6687

ET6690 Semiconductor Circuits

A one-semester course; four credit hours. Semi-conductor physics, diodes, avalanche and zener diodes, temperature stabilization, transistor operation; four terminal network theory utilizing α , γ , h , g parameters, a-c equivalent circuit analysis, series and shunt feed back, power amplifiers are studied. Practical experience in measurement and design and analysis of semi-conductor circuits in the laboratory. Three class hours and one three-hour laboratory period per week.

Prerequisite: Basic understanding of networks and electronics.

FA7012 Introduction to the Creative Experience

A one-semester course; three credit hours. An investigation of the creative process as it relates to early childhood education. Practical experience in art, crafts, music and drama serves as the basis for discussions of creativity in the young child. Three class hours per week.

FA7081 Analysis of Visual Works of Art

A one-semester course; three credit hours. Discussion and evaluation of visual works of art with special emphasis on painting. The class will deal with such questions as: What is Art? What is the role of Beauty in the definition of Art? How does one evaluate a work of Art? What is Creative Process? Who is the Creative Person? Three class hours per week.

FA7082 Historical Survey of Visual Ideas

A one-semester course; three credit hours. Discussion and evaluation of visual works of art from pre-history to present day. While the first semester dealt with general concepts of art as related to all works of art, this course will place emphasis on the unique contribution of individual cultures in the development of the western world. Three class hours per week.

Prerequisite: FA7081 or permission of the instructor.

**FA7083 Studio I: Introduction to the Visual Elements in
Two-dimensional Expression**

A one-semester course; three credit hours. An introduction and exposure to various materials that have the potentiality for two-dimensional expression. Emphasis will be on the experiencing of new materials and the inherent properties that each of these materials have. All materials shall be provided by the student. There will be a total of five units each exploring a different medium of expression. Three two-hour classes per week.

FA7084 Drawing II

A one-semester course; three credit hours. Rather than considering the elements of line, point, texture, pattern, space, form, etc. in isolation, the course will concentrate on bringing these together into more complex structures and compositions. The student will be expected to complete at least seven different projects in the course of the semester, each one placing emphasis on a separate aspect of drawing. Three two-hour contact sessions per week.

**FA7085 Studio Ia: Introduction to the Visual Elements in
Three-dimensional Expression**

A one-semester course; three credit hours. An introduction and exposure to various materials that have the potentiality for three-dimensional expression. Emphasis will be on the experiencing of new materials and the inherent properties that each of these materials have. All materials shall be provided by the students except those used in the first unit. There will be a total of five units each exploring a different medium of expression. Three two-hour classes per week.

FA7086 Painting II

A one-semester course; three credit hours. The course will place more emphasis on the technical nature of painting in relation to preparing canvass, color mixing, etc. Greater stress on role of structure and composition within a work. The student will be expected to complete at least five different projects in the course of the semester, placing special emphasis on one aspect of painting. Three two-hour contact sessions per week.

FA7091 Music Appreciation

A one-semester course; three credit hours. No previous training in music is required. The course is intended for the greater understanding and enjoyment of music. Emphasis is placed on musical style and historical background evident in the works of the great composers. Other compositions from the Baroque period to the present day are studied. Listening assignments are included. Three class hours per week.

FA7775 Fundamentals of Play Production

A one-semester course; three credit hours. The methods and techniques of play production. Practical laboratory work, seminars, and demonstrations. Lighting the stage, set construction, costume design and construction, make-up and other theatre related activities are performed and discussed. First-hand experience is gained by participating in aspects of play production. Three class hours per week.

Prerequisite: Permission of the instructor.

FA7999 Special Topics in Fine Arts

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

FI3652 Business Finance

A one-semester course; three credit hours. Principles and practices of business finance. Short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing, and the capital market. Some use of case study method. Three class hours per week.

FI6651 Principles of Insurance

A one-semester course; three credit hours. Study of the principles of risk management and how insurance handles risk. The concept of risk management is outlined. Insurance coverages for the following are studied: property, liability, life and health. Three class hours per week.

FI6653 Credits and Collections

A one-semester course; three credit hours. Study of the credit function in business. Subjects covered include the credit risk, credit instruments, consumer credit, sources of credit information, retail credit and collection methods. Three class hours per week.

FI6663 Principles of Real Estate

A one-semester course; three credit hours. Survey of the various areas of real estate practice and the principles involved in the purchase, valuation, and selling of real estate. Three class hours per week.

FR4401-FR4402 Introductory French I and II

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school French or the equivalent as determined by the college. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. Three class hours per week.

FR4451-FR4452 Intermediate French I and II

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school French or the equivalent as determined by the college, or who complete FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. Three class hours per week.

FR4999 Special Topics in French

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

FR8851 Masterpieces of French Literature

A one-semester course; three credit hours. At least one representative work from each major literary period will be read in French. Three class hours per week.

GE9511 Principles of Geography

A one-semester course; three credit hours. A systematic study of the earth's physical and social patterns. Types and uses of maps, the earth as a planet, the atmosphere, weather and climate, topography and its development, resources and economic activities. Three class hours per week.

GE9512 World Regional Geography

A one-semester course; three credit hours. Major world regions and political units. A survey of nations in terms of human activities and conditions as they are related to the earth's physical features. Natural and cultural environments of man are focussed on political units. Three class hours per week.

Prerequisite: GE9511

GM4401-GM4402 Introductory German I and II

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school German or the equivalent as determined by the college. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

GM4451-GM4452 Intermediate German I and II

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school German or the equivalent as determined by the College, or who have completed GE4401 and GE4402. A continued study of the language emphasizing the development of reading ability. Three class hours per week.

GM4999 Special Topics in German

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

GV3313 The Federal Government

A one-semester course; three credit hours. The structure, functions, and procedures of the legislative, judicial, and administrative branches of the Federal Government will be analyzed within the context of the Constitution of the United States. Emphasis will be given to the structure and function of the various branches of government as well as their interrelationships and the effects of other factors on their functions. Three class hours per week.

GV3314 State and Local Government

A one-semester course; three credit hours. The structure, functions, politics, and problems of state and local government will be dealt with in an attempt to become aware of the functions and operations of state and local government. Special emphasis will be given to the identification and definition of problem areas in an attempt to better understand the issues involved as well as to deal with possible solutions. Three class hours per week.

GV3315 Civil Rights and Liberties

A one-semester course; three credit hours. Course deals with the role of individual rights and liberties in American society within the framework of the United States Constitution. The paradox of freedom is essentially the core around which lectures, discussion and research will be conducted. It is advisable to take this course after having completed a course in federal government. Three class hours per week.

GV3323 Comparative Modern Government

A one-semester course; three credit hours. Comparison and contrast of the spirit and structures of government in France, Great Britain, the Soviet Union, Germany. Three class hours per week.

Prerequisite: HI9901, HI9902, GV3313 and permission of the instructor.

GV3999 Special Topics in Government

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in the discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

HI9901-HI9902 Western Civilization

A two-semester course; three credit hours per semester. Survey of the major historical developments and trends in Western Civilization from the Ancient Near East and Classical Greece and Rome to modern times, with emphasis on the formation and evolution of the social, political, economic, and cultural institutions of Modern Europe. Three class hours per week.

HI9913-HI9914 U. S. History

A two-semester course; three credit hours per semester. The United States since Colonial times. The development of the social, political and cultural institutions. Three class hours per week.

HI9951 European History 1789-1914

A one-semester course; three credit hours. An analysis of the major political, social, economic, religious and intellectual movements of Western European Civilization from the French Revolution through the origins of the First World War. Three class hours per week.

Prerequisite: HI9901, HI9902 and permission of the instructor.

HI9952 European History 1914-1965

A one-semester course; three credit hours. Study of the major social, political, intellectual, religious and economic developments of the half-century. Primary focus on politics, the nature, conduct and consequences of W.W.I, Paris Peace Settlement, search for collective security, depression and the rise of totalitarianism, causes, conduct and results of W.W.II, cold war, the end of empire, the search for European unity. Three class hours per week.

Prerequisite: HI9901, HI9902 and permission of the instructor.

HI9953 Far Eastern History

A one-semester course; three credit hours. Survey of the history and civilization of the Orient with major emphasis on China and Japan, the impact of the West, Far Eastern ideas and institutions in the nineteenth and twentieth centuries. Three class hours per week.

Prerequisite: HI9901, HI9902 and permission of the instructor.

HI9955 Minority Groups in America

A one-semester course; three credit hours. Seminar on the contributions and difficulties of religious, racial, ethnic and other minority groups in the pluralistic American society from colonial times to the present. Particular attention will be given to the following groups: Catholic and Jewish, American Indian, Negro and Puerto Rican, and southern European and Oriental. Students will research, write and present individual reports. Three class hours per week.

Prerequisite: HI9913, HI9914 and permission of the instructor.

HI9999 Special Topics in History

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

HS6601 Medical Terminology

A one-semester course; three credit hours. Study of prefixes, suffixes; abbreviations; disease, operative, and drug terms. Also included are terms related to all areas of medical science, hospital service, and the para-medical specialties. Three class hours per week.

***HU3111 Humanities I**

A one-semester course; three credit hours. An interdisciplinary focus on man: cosmological, philosophical, biological, sociological, political and ecological. Sequence of topics: Man and the Cosmos, Biological Man, Man in Society, Man the Politician, Man and His Environment. Format: a colloquium involving a natural scientist, a social psychologist, and an historian-political scientist. Three class hours per week.

IT4401-IT4402 Introductory Italian I and II

A two-semester course; three credit hours per semester. For students who have not completed two years of secondary school Italian or the equivalent as determined by the college. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

IT4451-IT4452 Intermediate Italian I and II

A two-semester course; three credit hours per semester. For students who have completed two or more years of secondary school Italian or the equivalent as determined by the college, or who have completed IT4401 and IT4402. A continued study of the language emphasizing the development of reading ability. Three class hours per week.

IT4999 Special Topics in Italian

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

**** LE3601 Criminal Law**

A one-semester course; three credit hours. The substantive law of crimes, including the general and the special parts of the criminal law. Emphasis is placed on analysis of the elements of particular crimes through case study. Three class hours per week.

**** LE3602 Law Enforcement Management and Planning**

A one-semester course; three credit hours. Consideration of police problems at the administrative level, including coordination of all branches of a police department. An evaluation of line, staff and auxiliary functions and the interrelationship of each. The purpose, need, and scope of planning in the police operation, including staffing, collection of data and use of data processing. Three class hours per week.

* Course offered in the Discovery Program only.

** Course offered offered in the Division of Continuing Education only.

*** LE3603 Introduction to Criminal Justice**

A one-semester course; three credit hours. A survey of federal, state, county and local law enforcement agencies, their history, development and modern role within the field of criminal justice. Three class hours per week.

*** LE3604 Introduction to Criminology**

A one-semester course; three credit hours. A survey of the patterns and evolution of adult criminal and juvenile delinquent behavior analyzed in terms of various theories of such behavior; administration of criminal justice; police, law, courts (including juvenile courts) and prisons. Three class hours per week.

*** LE3651 Police Operations**

A one-semester course; three credit hours. Organization and function of line operations in law enforcement including patrol, traffic, investigation, juvenile, vice and other specialized operations. Three class hours per week.

*** LE3653 Criminal Investigation**

A one-semester course; three credit hours. An introduction to field investigation, including conduct at the crime scene, interview and interrogation of witnesses and suspects, the use of informants, and techniques of surveillance. Emphasis is placed on special investigative techniques and on the court procedure of the police case. Three class hours per week.

*** LE3654 Criminal Procedure**

A one-semester course, three credit hours. The criminal process from investigation through arrest, indictment, trial and sentencing. Emphasis is placed on procedural matters especially affecting law enforcement such as arrest, search and seizure, interrogation, wiretapping, entrapment, and pre-trial publicity. Three class hours per week.

*** LE3656 Introduction to Criminalistics**

A one-semester course; three credit hours. The organization, capabilities, and use of a criminalistics laboratory, including demonstrations of identification and comparison of evidentiary materials. Three class hours per week.

LW6651 Business Law I

A one-semester course; three credit hours. Introduction to law and its development. The law of contracts and its elements. The law of agency and its application to business. Three class hours per week.

LW6652 Business Law II

A one-semester course; three credit hours. A continuation of LW6651, developing a basic understanding and application of the Uniform Commercial Code involving

****Course offered in the Division of Continuing Education only.**

negotiable instruments, sales, banking, partnerships, corporations, and estates and trusts. Three class hours per week.

Prerequisite: LW6651

***MA501 Fundamentals of Mathematics**

A one-semester course; three credit hours. A self-help course taught on a tutorial basis to assist students deficient in the fundamentals of mathematics. Basic level. Five class hours per week. Credit for either MA502 or MA503, in lieu of credit for MA501, will be given to students who master the appropriate material.

***MA502 Structure of Arithmetic**

A one-semester course; three credit hours. An introduction to the "new math" which aims to strengthen the computational skill of the student as well as foster a deeper understanding of the nature of "number" and "operation". The unifying concept of "set" is used throughout the course to define natural numbers and to develop the rational numbers and real numbers and the operations of arithmetic. The logical structure of mathematics is shown by using the axiomatic approach. Five class hours per week.

***MA503 Contemporary Algebra**

A one-semester course; three credit hours. Instruction in the theory of sets and numbers, the language of algebra, equations and the inequalities in one and two variables, systems of equations and polynomials, factoring, quadratic equations inequalities, functions and relations, exponents, and radicals. Five class hours per week.

MA500 Developmental Pre-school Mathematics

A one-semester course; three credit hours. The course is designed to train the student to know what basic intuitive mathematical concepts are at the foundation of a pre-school child's mathematical development. He is further trained in how to enhance and encourage these concepts in unstructured and informal ways. He is shown how to observe the child's activities for opportunities to strengthen the child's intuitive mathematical base. He is further given a fund of activities for the child which usually lead to opportunities for reinforcing the child's intuitive mathematical background.

MA5001 Pre-college Mathematics

A one-semester course; no credit hours. Especially designed to fulfill prerequisites for MA5503. Sets. Sets of numbers. Properties of a field. Solution and graphing of equations and inequalities in one and two variables. Compound statements. Three class hours per week.

MA5503 Finite Mathematics I

A one-semester course; three credit hours. Compound statements. Truth tables. Inference and proof. Set theory, counting and measuring. Mathematical reasoning and mathematical systems. Three class hours per week.

Prerequisite: Two years of high school algebra or MA5001.

*Course offered in the Discovery Program only.

MA5504 Finite Mathematics II

A one-semester course; three credit hours. Relations and functions. Permutations and combinations. Probability. Descriptive statistics. Sampling designs. Three class hours per week.

Prerequisite: MA5503

MA5506 Statistics

A one-semester course; three credit hours. Set theory approach to probability. Descriptive statistics. Probability distributions. Sampling inferences from statistics. Hypothesis testing. Linear regression and correlation. Three class hours per week.

Prerequisite: MA5503

MA5508 Elementary Functions

A one-semester course; three credit hours. Set theory approach to polynomial, rational, algebraic, exponential, logarithmic, and trigonometric functions. Analytic geometry. Three class hours per week.

Prerequisite: MA5503

MA5510 Contemporary Mathematics for Elementary Teachers

A one-semester course; three credit hours. An introductory course designed to help students to understand the ideas behind the mathematics needed to be successful teachers in elementary education. Course deals with, and illustrates, the interaction between the arithmetic and geometric aspects, and deals with the broad range of, computational schemes currently used in elementary mathematical education. (MA5503 recommended). Three class hours per week.

MA5531 Calculus I (Liberal Arts)

A one-semester course; four credit hours. The integral and derivative. Differential calculus of polynomial, rational, exponential, logarithmic and trigonometric functions, with an emphasis on problem solving; antiderivatives. Four class hours per week.

MA5532 Calculus II (Liberal Arts)

A one-semester course; four credit hours. Differential functions, chain rule, methods of integration, implicit and inverse functions. Limits, applications of integration to problem solving. Volume, theory of curves. Four class hours per week.

Prerequisite: MA5531 or equivalent

MA5611-MA5612 Finite Mathematical Models I and II

A two-semester course; three credit hours per semester. Topics include: logic, set theory, vectors and matrices, probability and Markov chains, linear programming and general theory. Three class hours per week.

MA5613 Mathematics of Finance

A one-semester course; three credit hours. The mathematics used in business transactions. Three class hours per week.

MA5621 Algebra and Trigonometry

A one-semester course; four credit hours. For students enrolled in a technology curriculum. A complete review of algebra. Introduction to trigonometry. Three class hours and two one-hour problem-solving sessions per week.

MA5622 Advanced Algebra and Trigonometry

A one-semester course; four credit hours. For students enrolled in a technology curriculum. Emphasis on the use of algebra, trigonometry and graphics in the solution of technical problems. An introduction to the concepts of rate of change and summation of areas. Three class hours and two one-hour problem-solving sessions per week.

Prerequisite: MA5621

MA5641 Mathematics of Business

A one-semester course; three credit hours. A study of the mathematics of percentage, interest, discounts, depreciation, insurance, payroll, and statistical averages. Three class hours per week.

MA5651 Advanced Technical Mathematics I

A one-semester course; four credit hours. For students enrolled in a technology curriculum. Use of mathematics in solving technical problems involving velocity, acceleration, area, volume, maximum and minimum. Four class hours per week.

Prerequisite: MA5622

MA5652 Advanced Technical Mathematics II

A one-semester course; three credit hours. The mathematics of scalar and vector products, solid analytical geometry, partial derivatives, series expansions, deMoivre's Theorem, L'Hospital's Rule, etc. Three class hours per week.

Prerequisite: MA5651 or equivalent

MA5661 Advanced Trigonometry and Analytic Geometry

A one-semester course; four credit hours. Review of the fundamentals of algebra and trigonometry. Introduction to advanced algebraic concepts, trigonometric identities, basic statistics, complex variables, analytic geometry and the basic forms of differentiation and integration. Three class hours and one two-hour problem-solving session per week.

MA5671 Business Statistics

A one-semester course; three credit hours. The use of statistical methods in the management of business. Three class hours per week.

MA5683 Calculus I (Technical)

A one-semester course; four credit hours. An extension of MA5661 into the field of calculus. Applications of calculus to problems of relative rates, curve tracing, maximum, minimum, area, volume, etc. Four class hours per week.

Prerequisite: MA5652

MA5684 Calculus II (Technical)

A one-semester course; four credit hours. The calculus of scalar and vector products, solid analytical geometry, partial derivatives, series expansions, deMoivre's Theorem, L'Hospital's Rule, etc. Four class hours per week.

Prerequisite: MA5683

MA5685 Differential Equations

A one-semester course; four credit hours. Fundamentals of ordinary linear differential equations, LaPlace Transforms, numerical methods of solutions, etc. Four class hours per week.

Prerequisite: MA5683

MA5999 Special Topics in Mathematics

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

MG6651 Industrial Management

A one-semester course; three credit hours. Overview of manufacturing operations. All aspects of the production function are discussed: capital investment, assembly-line operation, plant location, product design, time study, purchasing and other topics. Three class hours per week.

MG6652 Time and Motion Study

A one-semester course; three credit hours. The course deals with the application of methods improvement and work measurement techniques. The use of the stop watch, work sampling and operations charts in terms of application to standard systems. Three class hours per week.

MG6676 Personnel Management

A one-semester course; three credit hours. Principles and human relations problems involved in the administration of personnel. Topics include job analysis and specification, recruitment, selection and training, job evaluation, supervision of employees, and salary and wage administration and labor relations. Three class hours per week.

MK6678 Principles of Marketing

A one-semester course; three credit hours. Introduction to marketing with emphasis placed on the basic functions and the channels of distribution. The consumer, the market area, and the problems and policies of pricing the product. Three class hours per week.

MK6679 Advertising

A one-semester course; three credit hours. Analysis of buying motives and the development of various advertising appeals. Planning, budgeting and testing of phases of the program and the several advertising media. Three class hours per week.

MK6680 Retailing

A one-semester course; three credit hours. Basic elements of retail merchandising. Types and organization of retail outlets. Buying, pricing, dollar and unit stock control, sales promotion, and expense budgets. Three class hours per week.

MK6681 Salesmanship

A one-semester course; three credit hours. Fundamentals of salesmanship by studying the behavioral aspects of the persuasion process; a systematic approach to selling which the student can use to develop the techniques which fit his own personality and particular situation. Three class hours per week.

MR6601 Medical Record Science I

A one-semester course; three credit hours. A brief study of the history of medical records, hospitals, and medicine. An analysis is made of professional ethics, and personal conduct required of medical record personnel. Study is also made of the uses and value of the medical record, and responsibility for the component parts of the medical record, quantitative and qualitative analysis of records, and methods and techniques to facilitate completion of records. The importance of medical record personnel as members of the health-care team is emphasized. Two class hours and one two-hour laboratory period per week.

MR6602 Medical Record Science II

A one-semester course; three credit hours. Deals with the study of basic principles of compiling statistics for hospitals and other medical facilities. Preparation of reports includes the daily census; analysis of hospital services; monthly, annual and special reports. Methods for recording vital statistics are included. Basic principles in the classification of diseases and operations according to the Standard Nomenclature of Diseases and Operations and the International Classification of Diseases, Adapted. Also included are methods of maintaining the physicians' index; birth, death and emergency registers; and the special types of disease registers. The techniques of assisting medical staff in research projects are included. Two class hours and one two-hour laboratory period per week.

MR6611 Directed Practice I (Medical Record)

A one-semester course; two credit hours. Directed practice experience in the following areas: admitting procedures, circulation and control of medical records, discharge procedures. One hundred and twenty class hours for the semester.

MR6651 Medical Record Science III

A one-semester course; three credit hours. Course includes the study of principles of law as related to patient care and medical records; study of medical staff structure within the hospital; study of health accrediting agencies; and the study and practice of medical transcription. Two class hours and one two-hour laboratory period per week.

MR6652 Medical Record Seminar

A one-semester course; one credit hour. This is a seminar in problem analysis and action in the operation of a medical records department of a hospital or other type of medical facility. The course is designed for students in the final semester and will provide a means of coordinating the final directed practice. One class hour per week.

MR6660 Directed Practice II (Medical Record)

A one-semester course; four credit hours. Directed practice experience in the following areas: statistics, Coding and Indexing Transcription of discharge summaries and operations. Two hundred and forty class hours for the semester; sixty hours of which is transcription taught on campus.

MR6666 Directed Practice III (Medical Record)

A one-semester course; three credit hours. Directed practice experience in the following areas: Transcription. Release of Medical Information, Secretarial and Management experience. One hundred and eighty hours for the semester.

NH6613 Principles of Nursing Home Administration I

A one-semester course; three credit hours. The functioning, forms and financing of nursing homes. Approached from a general overview of community health care with an emphasis on the role of nursing homes in our society. Exploring the complex of activities found in the institution; the administration of food services, patient care, personnel, buildings, and long-term care. Three class hours per week.

NH6614 Principles of Nursing Home Administration II

A one-semester course; three credit hours. The history and current character of institutional care. Organizational structure and functions of typical nursing homes. Long-term care facilities, homes of the aged, and government facilities. Three class hours per week.

NH6622 Food Services and Nutrition

A one-semester course; three credit hours. Survey of food quality and services. Study of adequate facilities and equipment for the proper storage, preparation and serving of food for residents and employees. Familiarity with dietary needs of both groups, and understanding of garbage disposal facilities and procedures. Three class hours per week.

NH6651 Nursing Home Plant Planning

A one-semester course; three credit hours. Planning, designing and constructing nursing home and small hospital plants. Discussion of sites, materials and contractual processes. Procurement of supplies and equipment. Three class hours per week.

NH6652 Medico-Legal Standards

A one-semester course; three credit hours. Study of the rules and regulations administered by the State Department of Public Health. Survey of state and federal requirements in terms of liability and responsibility of nursing homes relative to patients and employees. Three class hours per week.

NH6680 Internship (Nursing Home Administration)

A one-semester course; four credit hours. Taken during the final semester of the program. Work experience under a qualified instructor, periodic seminars with college staff, periodic written progress reports, and a written major report by the student. Internship must be taken at an approved institution by arrangement. Four laboratory hours per week.

NH6682 Principles of Nursing Home Finance

A one-semester course; three credit hours. Study of health care economics pertaining to specific aspects of health care, the costs and expenditures involved, health prepayments, insurance programs, the impact of social and economic factors on the financial structure of the nursing home. Three class hours per week.

NH6684 Principles of Medical Records

A one-semester course; three credit hours. Study of medical history records, report preparation, coding, indexing procedures, ethics, methods of securing and preserving medical records, and medical record practices and procedures. Three class hours per week.

NS6601 Nursing I – Fundamentals of Nursing

A one-semester course; eight credit hours. This course is designed to help the student to develop first an understanding of normal health needs and the basic concepts and skills necessary to render safe and effective bed-side nursing care. Basic mental health concepts and communication skills, nutrition, pharmacology, and the preventive aspect of rehabilitation are introduced. Four class hours and twelve hospital practice hours per week.

NS6602 Nursing II – Maternal and Child Health Nursing

A one-semester course; eight credit hours. This course provides a study of the knowledge, skills, and attitudes necessary to afford effective care of patients throughout the maternity cycle, the newborn infant and the child from infancy through adolescence. Opportunity is offered to study the psychological development of the child concurrently with the normal physical growth and development. This combination provides an understanding of the total child when he is ill and when he is well. Diet therapy and pharmacology are integrated throughout. Public health and the therapeutic aspect of rehabilitation are introduced. Four class hours and twelve hospital practice hours per week.

Prerequisite: NS6601

NS6651 Nursing III

A one-semester course; eight credit hours. Course provides a study of the patient with physical or mental illness and the nursing knowledge and skills necessary to their effective nursing care. Surgical asepsis, emergency and disaster nursing, and the restorative aspects of rehabilitation are introduced. Communications skills and interpersonal relationships are emphasized. Related diet therapy and pharmacology are integrated. Selected clinical experience. Four class hours and four three-hour laboratory periods per week.

Prerequisite: NS6602

NS6652 Nursing IV – Advanced Medical-Surgical Nursing

A one-semester course; ten credit hours. This course is designed to develop those understandings and skills necessary to the effective nursing care of patients with major medical-surgical problems. Geriatric nursing and the team approach to nursing are introduced, and selected aspects of emergency and disaster nursing are considered. Five class hours and fifteen hospital practice hours per week.

Prerequisite: NS6651

NS6682 Seminar on Nursing

A one-semester course; three credit hours. Course is designed to provide students with an appreciation of the historical development of nursing, the present and future trends in nursing education and practice, and the role of nursing organizations. Opportunities for, as well as problems and responsibilities of, the registered nurse are discussed. Three class hours per week.

Prerequisite: NS6651

PE2293 Physical Education and Recreation Activities

A one-semester course; one credit hour. Study of and participation in games and exercises designed to increase motor ability and group interaction of the young child. Two class hours per week.

PH1101 Introduction to Philosophy I

A one-semester course; three credit hours. The aims, nature and problems of philosophy and its methods of inquiry and explanation, such as intuitionism, rationalism, empiricism, and pragmatism. The sources, limitations and validity of knowledge, with particular attention to the positions of Locke, Berkeley, Hume and Kant. Concludes with examination of basic ethical theories. Three class hours per week.

PH1102 Introduction to Philosophy II

A one-semester course; three credit hours. Critical analysis of fundamental assumptions, teachings and theoretical and practical implications of the major schools of philosophy, with particular attention to views about God, man, nature and society. Three class hours per week.

PH1151 Introduction to Logic

A one-semester course; three credit hours. Course will inquire into the nature of critical thinking. Such topics as the functions of language, experimental truth and logical validity, the structure of deductive arguments, and basic inductive methods will be considered. Three class hours per week.

PH1999 Special Topics in Philosophy

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

PI5501-PI5502 Physics I and II

A two-semester course; four credit hours per semester. Intended for liberal arts students and some science majors. The course will examine the elements of mechanics, sound, heat, electricity, magnetism and light. Plane trigonometry and algebra will be used. Three class hours and one three-hour laboratory period per week.

Prerequisite: One year of college mathematics

PI5503 Introductory Physics I

A one-semester course; four credit hours. This course is designed to cover concepts in physics which are necessary for a basic understanding of our twentieth century physical world. The treatment will be largely non-mathematical and will cover topics such as relative motion, mass energy relations and atomic structure. Three class hours and one three-hour laboratory period per week.

PI5504 Introductory Physics II

A one-semester course; four credit hours. A continuation of PI5503 with the same objectives, but focussed upon other interesting topics such as heat, light and radiation. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5503

PI5621 Applied Physics I

A one-semester course; four credit hours. Fundamentals of mechanical motion using algebra and graphical solutions. Principles of heat transfer, wave motion, vibration and sound. Basic fluid mechanics. Three class hours and one three-hour laboratory period per week.

PI5622 Applied Physics II

A one-semester course; four credit hours. Fundamentals of electricity, magnetism, and electrochemical effects. Electromagnetic induction and magnetic properties. Introduction to physical optics, lenses, mirrors and optical instruments. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5621

PI5623 Engineering Physics I

A one-semester course; four credit hours. To be taken concurrently with MA5621. The principles of mechanics, including composition and resolution of vectors, statics, moments, rectilinear motion, Newton's second law, motion of a projectile, work and energy, impulse and momentum, circular motion, rotational kinematics and dynamics, elasticity, harmonic motion. Three class hours and one three-hour laboratory period per week.

PI5624 Engineering Physics II

A one-semester course; four credit hours. To be taken concurrently with MA5622. Principles of electricity and magnetism. Coulomb's Law, potential, D. C. circuits, the magnetic field, galvanometers, ammeters, voltmeters, wattmeters, the D. C. motor, magnetic field of a current and of a moving charge, induced electromotive force, capacitance and inductance, magnetic properties of matter. Three class hours and one three-hour laboratory period per week.

Prerequisite: PI5501

PI5651 Engineering Physics III

A one-semester course; four credit hours. To be taken concurrently with MA5683. Heat, sound, and optics, including the following: thermometry, quantity of heat, change of state, work and heat; heat transfer, thermal properties of matter, the first and second law of thermodynamics, wave motion, vibrating systems; accoustical phenomena; the nature and propagation of light; reflection and refraction at a single surface, lenses and lens aberration; optical instruments; illumination, color, and polarized light. Three class hours and one three-hour laboratory period per week.

PS1999 Special Topics in Physics

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in the discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

PS1101 Introduction to Psychology

A one-semester course; three credit hours. Survey of the more important areas of psychology. Study of behavior, including maturation and development, emotions, motivation, learning, intelligence, conflict, psychotherapy and perception. Three class hours per week.

PS1151 Child Psychology

A one-semester course; three credit hours. Study of child development from the behavioral aspect. Motor, speech, social, emotional and play development are emphasized. A research paper on a particular kind of child or on one age level is required. Three class hours per week.

Prerequisite: PS1101

PS1152 Adolescent Psychology

A one-semester course; three credit hours. Study of adolescent development from the point of view of both the adult and the adolescent. The emotional, social, intellectual and other phases of development are considered. Three class hours per week.

Prerequisite: PS1101

PS1153 Educational Psychology

A one-semester course; three credit hours. Major psychological factors in human development related to problems in the school situation; teacher's role in school motivation; conceptual learning, problem solving and the development of emotional behavior, attitudes and values; learning of skills; retention and transfer; and measurement of student abilities and achievement. Recommended for students contemplating future study in education or psychology. Three class hours per week.

Prerequisite: PS1101

PS1351 Social Psychology

A one-semester course; three credit hours. The social matrix of individual behavior. The shaping of personality by face-to-face relations with one other, two others, or a group. Why behavior is different in a group. Prejudices as perception. Group influence on masculine and feminine identity. The group and the search for meaning. Three class hours per week.

Prerequisite: PS1101

PS1651 Industrial Psychology

A one-semester course; three credit hours. An introduction to problems of human relations in business and industry. Such problems as selection, placement, conflict, supervision, motivation and cooperation will be examined. The case method will be used extensively. Three class hours per week.

PS1751 Abnormal Psychology

A one-semester course; three credit hours. The study of the etiology, treatment and prevention of mental disorders. Includes study of functional and organic psychoses, psychoneuroses, and borderline maladjustments. Three class hours per week.

Prerequisite: PS1101

PS1999 Special Topics in Psychology

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

PS6551 Gerontology

A one-semester course; three credit hours. The unique physical and mental characteristics and problems of the elderly with which administration of nursing home facilities should be familiar. Three class hours per week.

RT6511 Radiologic Science I

A one-semester course; three credit hours. Designed to examine the fundamentals of physical principles of electrical and x-ray physics, and the operational study of x-ray equipment and auxiliary devices. The course will examine fundamental and derived units, mechanics matter, magnetism and electricity, electromagnetism, generators, motors and transformers. Three class hours per week.

RT6512 Radiologic Science II

A one-semester course; three credit hours. Emphasis will be placed on the formation of ionizing radiation by further analysis of x-ray and other types of circuits, tubes, etc., laws of motion, thermal considerations, optics and lens systems, and radioactivity. Three class hours per week.

Prerequisite: RT6511

RT6517 Radiologic Orientation I

A one-semester course; four credit hours. This course will offer a comprehensive and detailed study of the history of x-ray technology and radiology, medical ethics, elementary radiation protection, medical terminology, darkroom chemistry,

basic principles of radiographic exposure, preliminary radiographic positioning and radiographic osteology. Emphasis will be placed on the understanding of radiologic technology and its place in the hospital setting. Two two-hour classes and one one-hour class per week.

RT6518 Radiologic Orientation II

A one-semester course; four credit hours. This course will continue basic positioning, radiographic exposure, and their interrelated principles. An evaluation and study of the use of contrast media. Nursing procedures related to radiology and radiologic technology, pediatric positioning will be considered. Two two-hour classes and one one-hour class per week.

Prerequisite: RT6517

RT6519 Hospital Practicum

A ten-week summer course; two credit hours. An interrelated aspect of Radiologic Orientation I and II. The student will apply, under direction and supervision, the principles of radiologic technology. Emphasis will be placed on visual demonstration of the principles and concepts of positioning, exposure, and related topics. Film critique will be an integrated part of the hospital phase. Activities will be under the direction of the college and the participating hospitals.

Prerequisite: Must be taken concurrently with RT6517 and RT6518

RT6551 Radiologic Technology I

A one-semester course; three credit hours. The following subjects will be examined in detail: a continuation of radiographic positioning, advanced radiographic positioning, radiologic osteology. Three class hours per week.

Prerequisite: RT6518

RT6552 Radiologic Technology II

A one-semester course; three credit hours. The following subjects will be studied in detail: intro-oral radiography, a survey of medical and surgical diseases, departmental administration, equipment maintenance. Three class hours per week.

Prerequisite: RT6551

RT6552a Hospital Practicum

A concurrent aspect of Radiologic Technology I and II. The student will apply, under the direction and supervision of the affiliate hospitals, principles learned in the classroom. Emphasis will be placed on solidification of theoretical knowledge in the hospital setting. Activities will be under the direction of the college and the liaison instructor in the affiliate hospitals.

Prerequisite: Must be taken concurrently with RT6551 and RT6552

RT6561 Principles of Radiologic Technique I

A one-semester course; four credit hours. The student will study radiographic exposure, radiation protection, and special procedures as they relate to radiology and radiologic technology. Three two-hour classes per week.

Prerequisite: RT6517

RT6562 Principles of Radiologic Technique II

A one-semester course; four credit hours. This course will study in detail the principles of radiation therapy, radioactive isotopes and film critique. Three two-hour classes per week.

Prerequisite: RT6561

RT6601 Respiratory Therapy I – Oxygen Therapy

A one-semester course; three credit hours. Overview of the field of respiratory therapy with emphasis on basic knowledge of the historical aspects of oxygen, its manufacture, governmental regulations, safety precautions, flow regulation devices with indications and procedures for the use and administration of oxygen equipment. Three class hours per week.

RT6602 Respiratory Therapy II – Aerosol Therapy/Pharmacology

A one-semester course; three credit hours. Theory and procedures of humidity and aerosol therapy, including an investigation into the devices currently employed in the field, and a survey of aerosol agents, and the pharmacological theory involved. Three class hours per week.

RT6607 Seminar for Technicians

A one-semester course; three credit hours. An evaluation and discussion of current topics in inhalation therapy including the presentation of original papers. The course is also designed to prepare the student for his clinical internship, and includes an intensive review of the fundamentals of inhalation therapy as preparation for technician certification. Three class meetings per week.

RT6613 Respiratory Therapy III – Ventilating Management

A one-semester course; four credit hours. Ventilation and emergency therapy, including all types of ventilators and their classification, units for home use, and the principles and procedures of cardio-pulmonary resuscitation. Three class hours and one three-hour laboratory period per week.

RT6614 Respiratory Therapy IV – Equipment Maintenance

A one-semester course; four credit hours. Care and maintenance of equipment: cleaning and sterilization, organization and administration of an inhalation therapy service and a consideration of ethics as applied to the role of the inhalation therapist in working with the patient, the nurse and the physician. Three class hours and one three-hour laboratory period per week.

RT6615 Respiratory Physiology

A one-semester course; three credit hours. Course will present an in-depth analysis of pulmonary circulation and gas diffusion; transport of oxygen and carbon dioxide; response to hyperogen ions; as well as clinical manifestations of pulmonary disease. Three class hours per week.

RT6616 Clinical Spirometry

A one-semester course; three credit hours. Course will cover evaluation and interpretation of vital capacity, maximal breathing capacity and timed vital capacity as applied to analysis and recognition of obstructive and restrictive lung disease. Three class hours per week.

RT6617 pH and Blood Gas Analysis

A one-semester course; three credit hours. Comprehensive study of Blood Gas Parameters, with special emphasis on a meaningful interpretation of results as applied to Respiratory Intensive Care. The course will culminate in a one-week equipment trouble-shooting seminar at Instrumentation Laboratory, Lexington, Massachusetts. Three class hours per week.

RT6618 Respiratory Intensive Care

A one-semester course; four credit hours. Emphasis will be placed on mechanical competence with both volume and pressure limited ventilators, trouble-shooting all equipment, including accessory apparatus, and the development of confidence and clinical acumen when dealing with critical situations. Three class hours and one three-hour laboratory period per week.

RT6621-RT6622 Seminars I and II (Inhalation Therapy)

A two-semester course; three credit hours per semester. An evaluation and discussion of current topics in respiratory therapy, including the presentation of original papers. Three class hours per week.

SC5011 Man and His Environment

A one-semester course; three credit hours. Study of the ecology of the ape, primitive man, and the cultured and urbanized man of today. The study of the progressive deterioration of man's balance with the rest of nature, showing the way man has to change his psychological attitudes in order to implement and develop new technical solutions. The study of the technical solutions necessary to solve the three major problems of today: overpopulation, inadequate resources and pollution. Three class hours per week.

SC5511-SC5512 Physical Science I and II

A two-semester course; four credit hours per semester. An integrated course which considers the basic principles of the physical universe, including the study of the composition of substances, the atmosphere, synthetics, the earth, and the universe, in an effort to develop an understanding of the relationship of the sciences to everyday life. Three class hours and one two-hour laboratory period per week.

SC5503 Integrated Science I

A one-semester course; four credit hours. Emphasis is placed on chemistry, physics and microbiology. The human body as a whole, the skin, the skeletal system, and the muscular system are studied. Three class hours and one three-hour laboratory period per week.

SC5504 Integrated Science II

A one-semester course; four credit hours. Emphasis is placed on the bodily systems, metabolism, nutrition, reproduction, genetics, the eye, and the ear in particular. Three class hours and one three-hour laboratory period per week.

SC5599 Research Topics in Science

An open-ended investigatory course with credits varying from one to three hours. Designed for the advanced student who is interested in a career in the sciences. The student will work on a topic of his choice under the direction of one faculty member. Topics available include areas in the biological, earth and physical sciences. Interested students should obtain a list of faculty members showing their areas of specific interest and then consult with the faculty member of his choice before registering for the course. Limited to one semester. **THIS COURSE DOES NOT FULFILL THE SCIENCE REQUIREMENTS FOR GRADUATION.**

Prerequisite: Permission of the instructor.

SC5999 Special Topics in Science

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

SH6621 Shorthand I

A one-semester course; three credit hours. Gregg shorthand principles, including the shorthand alphabet, brief forms, phrasing, and other abbreviating devices. Development of the ability to take dictation on practiced material at 60 to 80 words per minute. Study of the non-shorthand elements of spelling and punctuation. Four class hours per week.

SH6622 Shorthand II

A one-semester course; three credit hours. Reinforcement of shorthand principles, development of ability to take new matter dictation at 60 to 80 words per minute, and procedures and methods for handling simple office-style dictation problems. Four class hours per week.

Prerequisite: SH6621 or equivalent

SH6641 Technical Stenography

A one-semester course; three credit hours. Study of shorthand for technical terms, phrases, and abbreviations peculiar to each technical field and to develop the ability to devise technical shorthand outlines. Preparation of technical reports with a proficiency in proofreading and exactness of work. Three class hours per week.

Prerequisite: SH6622 and TW6622

SH6643 Technical Dictation and Transcription

A one-semester course; three credit hours. Development of ability to take dictation at speeds from 90 to 120 words a minute on technical materials and to transcribe accurately. Emphasis is placed on the transcribing problems peculiar to the technical field. Five class hours per week.

Prerequisite: SH6671 and SH6641

SH6671 Shorthand III

A one-semester course; three credit hours. Development of ability to take dictation speeds at the 80 to 100 work levels. Emphasis is placed on the mechanics of English including spelling and punctuation and the growth of effective transcribing techniques. Five class hours per week.

Prerequisite: SH6622 and TW6622 or equivalent

SH6672 Shorthand IV

A one-semester course; three credit hours. Development of shorthand skill at the 100 to 120 work levels. Reinforcement of previously learned typing and shorthand skills to improve accuracy and speed of transcription. Advanced office-style procedures. Five class hours per week.

Prerequisite: SH6671

SH6677 Medical Dictation and Transcription

A one-semester course; three credit hours. Development of the shorthand vocabulary necessary to write from dictation and to transcribe medical dictation. Practice in preparing various kinds of medical reports. Five class hours per week.

Prerequisite: SH6671 and HS6601

SH6679 Legal Stenography

A one-semester course; three credit hours. Development of a basic legal shorthand vocabulary. Study of the duties and responsibilities of the legal secretary in a law office. Three class hours per week.

Prerequisite: SH6622 and TW6622

SH6691 Legal Dictation and Transcription

A one-semester course; three credit hours. Development of the ability to take rapid legal dictation and to transcribe accurately. Students are required to type in

correct legal format and be familiar with the use of legal instruments and documents. Study of the maintenance of a law library and typical law office procedures. Five class hours per week.

Prerequisite: SH6679

SK6651 Office Machines

A one-semester course; one credit hour. Development of the basic skills needed to operate duplicating equipment, photocopy equipment, adding machines, calculators, and transcribing machines. Two class hours per week.

Prerequisite: TW6622

SK6653 Machine Transcription

A one-semester course; three credit hours. Development of high-level skills in the use of transcription equipment. Emphasis is placed on the use of business, professional, and technical materials. Development of vocational transcription rates. Four class hours per week.

Prerequisite: TW6622

SK6655 Medical Machine Transcription

A one-semester course; three credit hours. Introduction to machine transcription and development of a medical vocabulary. Development of vocational competence in medical transcription. Four class hours per week.

Prerequisite: TW6622 and HS6601

SL6661 Secretarial Procedures I

A one-semester course; three credit hours. Theory and problems in office and records management, selection and maintenance of office supplies and equipment, dictation and transcription procedures, composition of business letters, processing of mail, and postal and shipping services. Three class hours per week.

Prerequisite: TW6622 and SH6622

SL6662 Secretarial Procedures II

A one-semester course; three credit hours. Receptionist and telephone techniques, and handling travel arrangements. Preparation of business reports, statistical charts and graphs. Secretarial responsibilities for banking, insurance, investment and payroll services. Three class hours per week.

Prerequisite: TW6622 and SH6622

SL6665 Administrative Secretarial Procedures

A one-semester course; three credit hours. Development of judgments and insights needed by the executive secretary to function on the administrative or supervisory

levels. Analysis of long-range office projects, determination of work priorities, organization of research information, and the place of human relations in the supervisory process. A case-study approach to the problems of office supervision. Three class hours per week.

Prerequisite: SL6661

SL6668 Secretarial Field Experience

A one-semester course; three credit hours. Students are assigned to offices on the basis of interest and ability so that they may become a part of the business world before graduation. The student is supervised at the college by the departmental faculty and at work by the employer. One class hour, eight office hours per week.

Prerequisite: SH6671 and TW6631

SL6680 Medical Secretarial Procedures

A one-semester course; three credit hours. Theory and problems in the management of the medical office including filing, making appointments, completing medical forms, telephone techniques, medical bookkeeping, and dictation and transcription procedures related to the medical office. Three class hours per week.

Prerequisite: SH6677

SO3320 Introductory Anthropology

A one-semester course; three credit hours. To acquaint students with concepts, principles and major areas of anthropology. Physical anthropology: a synopsis of the evolution of man and his racial classification; cultural evolution: development and characteristics of early cultures; ethnology: the study of selected non-literate and contemporary peasant societies. Three class hours per week.

SO3321 Principles of Sociology

A one-semester course; three credit hours. Study of the social order, and of human behavior as motivated and influenced by group membership, and by culture. Analysis of structure and functions of the major social institutions. Three class hours per week.

SO3331 Marriage and the Family

A one-semester course; three credit hours. Examination of marriage and the family from a social-psychological point of view. Consideration of such areas of adjustment as emotional, physical, social, financial, religious and legal. Three class hours per week.

Prerequisite: SO3321

SO3333 Contemporary Social Problems

A one-semester course; three credit hours. Analysis of the origins, extent, and significance of contemporary social problems. The course will be concerned with

changes in social patterns and trends, with emphasis on the causes of group disintegration and reorganization. Three class hours per week.

Prerequisite: SO3321

SO3999 Special Topics in Sociology

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in the discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

SP4401-SP4402 Introductory Spanish I and II

A two-semester course; three credit hours per semester. For students who have not completed two years of high school Spanish or the equivalent as determined by the college. Audiolingual emphasis. Introduction to grammatical patterns, reading and writing. Three class hours per week.

SP4451-SP4452 Intermediate Spanish I and II

A two-semester course; three credit hours per semester. For students who have completed two or more years of high school Spanish or the equivalent as determined by the college, or who have completed SP4401 and SP4402. A continued study of language skills, emphasizing the development of reading ability. Three class hours per week.

SP4999 Special Topics in Spanish

A one-semester course; three credit hours. Directed readings, directed research or seminar in specific topics in the discipline. Syllabus to be approved by department and division chairmen prior to registration. Three class hours per week or equivalent.

Prerequisite: An interview which demonstrates a working knowledge of fundamentals of the discipline sufficient for the project and permission of the instructor.

TW6621 Typewriting I

A one-semester course; three credit hours. Foundation course for vocational typewriting. Development of correct basic typewriting skill. Introduction to short business and personal letters, tables, reports, and other typewriting applications. Four class hours per week.



TW6622 Typewriting II

A one-semester course; three credit hours. Development of requisite typing skill, experience, and knowledge expected of a typist new to office employment. Development of ability to make basic editorial corrections and to type manuscripts, business forms, tabulations, and correspondence. Four class hours per week.

Prerequisite: TW6621 or equivalent

TW6631 Typewriting III

A one-semester course; three credit hours. Extension of typewriting skill to higher performance levels. Emphasis on typing unfamiliar and unarranged kinds of materials. Statistical typing. Production typewriting. Four class hours per week.

Prerequisite: TW6622 or equivalent

TW6632 Typewriting IV

A one-semester course; three credit hours. Mastery of ability to produce rapidly long manuscripts related to reports, magazine articles and speeches. Development of the ability to compose correspondence and edit the business writings of others. Production typewriting with the development of vocational rates of speed. Four class hours per week.

Prerequisite: TW6631

TW6641 Technical Typewriting

A one-semester course; three credit hours. Correct use and spelling of scientific terminology. Development of skill in typing technical and engineering correspondence, reports, rough drafts, and manuscripts which contain various mathematical and chemical equations. Four class hours per week.

Prerequisite: TW6631



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B.S., M.A., University of New Hampshire
- Harold Sipples Assistant Professor, English
Ed.B., Rhode Island College; M.A., University of Rhode Island
- Edward E. Spinney Instructor, Earth Science
B.S., Salem State; M.Ed., University of Florida
- John H. Spurk Professor; Chairman, Division of Liberal Arts
B.S., Boston College; Diploma, University of Strasborg;
Ph.D., Boston University
- Churchill Stafford Dean of Students
A.B., Amherst College; Ed.M., Boston University

*Part-time faculty member

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Chairman, Division of Engineering and Technical Studies;
Acting Chairman, Dept. of Computer Technology
B.S.E.E., Catholic University of America
Graduate Study, Lowell Technological Institute, Louisiana Polytechnic Institute

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Acting Chairman, Dept. of Inhalation Therapy
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B.A., Graduate Study, University of Connecticut

Olga WilliamsProfessor;
Chairman, Department of Secretarial Science
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C.A.G.S., University of Bridgeport

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 School of Medical Records
- Oscar Witten (On leave)
 L.L.B., University of Berlin; B.A., University of Paris;
 Ed.M., Boston University
- Clarence A. Wood Professor, Psychology
 A.B., University of Rochester; B.D., Andover-Newton;
 Ph.D., Boston University
- Jack P. Wysong Assistant Professor, English
 A.A., Northern Essex Community College;
 A.B., Ed.M., University of Massachusetts

Correspondence

General administration	Office of the President
Courses and programs	Office of the Dean of the College
Admission to the college	Office of Admissions
Student information	Office of the Dean of Students
Scholarship records	Office of the Registrar
Financial aid/veterans	Office of Student Financial Aid and Veterans Affairs
Students financial affairs	Business Office
Public relations/publicity	Office of Public Relations
Evening school	Office of Continuing Education
Summer school	Office of Continuing Education
GED tests	Office of the Assistant to the President

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NORTHERN ESSEX COMMUNITY COLLEGE

Academic Calendar 1971-72

Fall Semester (1971)

Tuesday to Friday	September 7 to 10	Semester begins Academic information, registration & orientation session
Monday	September 13	First day of classes
Tuesday	September 21	Last day to request student schedule changes
Monday	October 11	Columbus Day - No classes
Thursday	October 21	Community College Professional Day
Monday	October 25	Veterans' Day - No classes
Monday & Tuesday	November 1-2	Community action recess
Friday	November 5	*Mid-Semester
Thursday to Wednesday	November 11 to 24	Pre-registration for spring semester
Wednesday	November 24	Thanksgiving recess begins at close of last class
Monday	November 29	Classes resume
Wednesday	December 22	Christmas recess begins at close of last class
Monday	January 3	Classes resume
Wednesday	January 5	Last day of classes
Thursday to Friday	January 6-14	Final examination period

Spring Semester (1972)

Thursday to Tuesday	January 27 to February 1	Semester begins Academic information & registration sessions
Wednesday	February 2	First day of classes
Wednesday	February 9	Last day to request student schedule changes
Monday	February 21	Washington's Birthday - No classes
Tuesday	March 21	*Mid-Semester
Friday	March 24	Spring recess begins at close of last class
Monday	April 3	Classes resume
Monday to Friday	April 3 to 14	Pre-registration to fall semester
Monday	April 17	Patriots' Day - No classes
Wednesday	May 17	Last day of classes
Thursday to Friday	May 18-26	Final examination period
Thursday	June 8	Commencement

*Mid-Semester (Last day to withdraw from classes without penalty is 10 school days after the mailing of mid-term grades.)



